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OF

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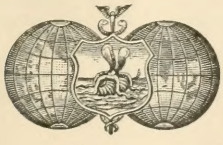

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Notice.

[The epidemic of influenza that is now prevailing has suggested that a general review of the subject would be of use to our subscribers. The main text of the article was borrowed from the advance-sheets of an article for the "Cyclopædia" by our Associate Editor, Professor Nathan S. Davis, of Chicago. Very little of value having been contributed recently, it was deemed advisable to incorporate the main practical points found in the literature of the last ten years.

The recent contributions to the subject of "pneumonia" have also been appended. The two subjects combined represent, in brief, one hundred and twenty-three articles, which we hope will prove useful to our patrons and to our exchanges.— ED.]

Cyclopædia of the Year's Literature.

INFLUENZA.

Symptoms. — Professor N. S. Davis states that epidemic influenza is remarkable for the suddenness of its attacks and the number of persons affected at the same time. There is no well-defined period of incubation, and generally no prodromic stage. Persons apparently in good health and engaged in their ordinary occupations are suddenly attacked with sensations of coldness, often increasing to a chill, with general depression and severe pains in the head, back, and limbs. The surface looks pale and the pulse and respiration vary, but these symptoms soon give place to distinct febrile reaction, some flushing of the face, general feeling of soreness of the muscles, and increased intensity of pains everywhere, with great sense of weakness.

The pulse and respirations increase in frequency, and the temperature generally ranges from 99 $^1/_2$° to 104° F., the skin being dry, the urine scanty and high colored, and the bowels inactive. There is no appetite, but some thirst. In a large majority of cases before the end of the first twenty-four hours the vessels of the conjunctiva become red; this is accompanied by active congestion of the lining membrane of the nostrils, pharynx, and bronchial tubes, with cough and oppression in the chest. At first the cough is dry and harsh, causing pain in the chest, and, in some cases, severe pain in the region of the frontal and maxillary sinuses. During the second day the congested membranes begin to secrete a thin, almost water-colored mucus that flows from the nostrils and renders the cough less dry, while on the third and fourth days the nasal discharge and the expectoration become more opaque or mucopurulent, causing more or less moist rhonchi in the chest. At the same time the pains in the head, back, and limbs and oppression in the chest become less severe, expectoration more free, temperature lower, especially during the morning hours, and by the end of the week the skin becomes bathed in perspiration, the kidneys secrete more urine, and convalescence begins.

In some of the wide-spreading epidemics of influenza, more especially those commencing during the summer and autumn months, there have been fewer symptoms of inflammation of the respiratory mucous membranes, and more in the membranous lining, the stomach, and of the abdominal viscera. Such was the case in many of the attacks during the epidemic commencing in the autumn of 1889 and recurring to some extent almost every year since. There was the same suddenness of the attacks, and the same severe pains, not only in the head, back, and limbs, but in the epigastrium, with tenderness to pressure in different parts of the abdomen, nausea, and occasional vomiting, and a disturbed condition of the bowels. The evacuations both from the stomach and bowels, though not frequent, were generally mixed with mucus sufficient to show that a general catarrhal disorder prevailed;

this sometimes led the practitioner to suspect that typhoid fever was present.

In a few cases the abdominal symptoms centered more in the region of the duodenum and hepatic ducts; this was indicated by constant nausea, occasional vomiting, scanty and high-colored urine, and yellow or jaundiced hue of the conjunctiva and skin, with much epigastric distress and general weakness.

In another class of cases the predominant symptoms are limited to the nervous structures, and consist not only in violent pains and moderate general fever, but a general hyperæsthesia throughout the cutaneous and muscular structures. Muscular movements both voluntary and involuntary are painful. These give rise to a distressed feeling of constriction around the chest, and soreness, with much pain in different parts of the line of attachment of the diaphragm, the pectoral muscles, and in the region of the heart. Both cardiac and respiratory movements are variable or irregular: a feature adding much to the general sense of prostration. In a few instances it has caused acute symptoms so closely resembling those of angina pectoris as to cause great alarm. In this class of cases especially, and to some extent in severe cases of whatever kind, the functions of the cardiac, vasomotor, and respiratory nerves remain impaired for a long time after general convalescence is established. Consequently the patients do not regain ability to take active physical exercise without experiencing shortness of breath, palpitation, and a sense of great weariness for months—and, in some, years—after the original attack. All the variations of influenza have, in rare instances, been complicated with inflammation of the brain or its membrane, of the endocardial structures, the urinary organs, and even the uterus.

One of the most constant and important influences accompanying epidemics of influenza is a marked impairment of vitality or vital resistance, as shown in continued loss of strength and endurance, mental despondency, and increased attacks of bronchitis, pneumonia, and tuberculosis, not only during its active prevalence, but for many months thereafter.

Jasiewicz[1] describes a variety of influenza characterized by bilious vomiting. The onset is sudden; occasionally there is a chill. Bilious vomiting occurs early and is abundant and sometimes obstinate. There may be anorexia, flatulence, marked abdominal swelling, pains localized in the right iliac fossa, constipation, headache, and more or less profuse night-sweats.

Carrieu and Pelan[2] mention the case of soldier brought to the hospital suffering with severe influenza, which commenced with a violent chill and pain in the side. These were immediately followed by cerebro-meningeal troubles: excruciating headache, bilious vomiting, and contortions of the face. These symptoms lasted five days, when they disappeared and were followed by a pleuro-pneumonia which had a regular course and ended in resolution. A remarkable feature of the case was the temperature, which oscillated during the first ten days between 100° F. in the morning and 104° F. in the evening. A bacteriological examination of the sputum showed the presence of numerous streptococci. Marmorek's serum was injected—20 cubic centimetres (5 drachms) each time—and after four injections the temperature was reduced to normal. The patient recovered completely.

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[1] Jour. de Méd. de Paris, June 6, '97.

[2] La Méd. Mod., Apr. 27, '98.

De Brun[3] states that meningitis may arise directly as a result of the general infection, in which case it occurs during the progress of the disease, or secondarily to otitis, in which case it occurs after the influenza has disappeared. The myelitis of influenza may be diffuse or systemic. The most frequent variety of the former has been transverse dorsal myelitis. The complications of the peripheral nervous system are the most common, and, among these, neuralgia takes first rank. Trigeminal neuralgias are most frequent. Disorders of motility are much less common than those of sensibility. Influenza may reawaken neuroses from which the patient has long been free, exaggerate existing or even provoke the explosion of neuroses in those who have never been affected. These nervous complications distinguish influenza from dengue.

Attention is drawn by Batz[4] to influenzal angina, which bears a marked resemblance to angina pectoris, with which, indeed, it is probably identical, being produced under the same conditions and accompanied by the same symptoms.

The duration of these sensations is variable, for the most part lasting some time. The variability of these cardiac affections depends on whether the vagi, the sympathetic, or intracardiac ganglia are affected, or they may even be of bulbar origin.

Nicolle[5] thinks that, of the many and various ways in which influenza declares itself, one of the most important is that in which the peripheral nerves are early and severely affected. In the case of a young woman who suffered from influenza, the ordinary symptoms lasted about four days and then disappeared completely, when on the sixth day she complained of severe pains appearing and disappearing suddenly, of a lightning-like character, and affecting different parts of the body. These pains were sufficiently severe to make the patient cry out. On examination it was evident that these pains followed the distribution of the superficial nerves. There was no sensory or vasomotor alteration. Antipyrine was prescribed in medium doses, and under this treatment the pains disappeared in the course of a few days.

Gabriel v. Engel[6] contends that of the four clinical forms—the purely febrile, the nervous, the catarrhal, and the gastric—women suffer most from the first two. Symptoms connected with the genital organs are very common, and menorrhagia and intermenstrual discharge are very frequent. Pre-existent diseases, such as endometritis, congestive or infectious, show exacerbations.

In chlorotic and anæmic girls attending a school, and in whom menstruation was irregular, the flow became and continued regular after an attack of influenza. Pregnancy and labor are commonly affected, and many abortions and premature labors occur during the several epidemics. Labor-pains were weak and specially painful, and the confinement was prolonged.

Diagnosis.—Dr. Nathan S. Davis states that the coincident development, without premonition, of general febrile symptoms, violent pains in the head, back, limbs, and various parts of the chest or abdomen; catarrhal irritation of the membranes of the respiratory passages or alimentary canal or both, with mental and nervous depression, is so characteristic of this disease as to render the diagnosis easy.

The fact that many in the same com-

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[3] La Méd. Mod., Nov. 30, '90.
[4] Thèse de Bordeaux, '96.
[5] Jour. de Méd., Aug. 5, '98.
[6] Wiener med. Presse, Nos. 43 and 44, '96.

munity are attacked simultaneously or in quick succession renders the clinical diagnosis more complete; yet some of the first cases observed are generally denominated violent "colds."

J. C. Wilson and S. Solis-Cohen[7] conclude that an ordinary attack of influenza lasts from three to ten days; of dengue, from one to three weeks. The former is marked by muscular debility; the latter, by intense articular pain, especially at the knees, occasioning a characteristic limping gait. Catarrhs of the various mucous membranes constitute the rule in influenza, the exception in dengue. The latter presents a characteristic eruption. In influenza, eruptions are rather exceptional, and, when present, variable. The temperature of dengue is apt to be remittent, and higher than that of influenza. Convalescence from influenza is generally rapid; from dengue, slow and tedious.

For a few days, influenza and typhoid fever might be confounded with one another. The former, however, does not present the dilated pupil so often seen in the latter, nor even a rose-rash; the temperature-curves of the two diseases are distinctly different; and the characteristic stool of typhoid fever is wanting in influenza.

A peculiarity of the tongue observed in case of influenza, which is believed to be characteristic, is mentioned by Fairsans.[8] It consists in a whitish hue, or porcelain-like whiteness, associated with humidity. The coloration is sometimes uniform, sometimes mottled. It makes its appearance within the first two or three days of the attack, and sometimes persists until the patient believes himself well.

Attention is also drawn by Terry[9] to a peculiar condition of the tongue noticed in cases of influenza; the appearance of dark, purplish-red spots scattered over the anterior half of the dorsum, about the size of a pin's head, becoming white and vesicular later on. The latter were also noticed on the inside of the mouth and soft palate.

A peculiar vesicular eruption on the soft palate is considered by Shelly[10] characteristic of influenza. The eruption consists of little vesicles resembling sago-grains, of from 0.5 to 1 millimetre in diameter.

Etiology.—Dr. Davis remarks that at the present time a large majority of medical writers and teachers assume that influenza is an infectious disease caused by a specific bacillus; and they generally point to the bacillus discovered in the pus-cells of the tracheal mucus by Pfeiffer in 1892, and in the blood by Canon the same year, as the essential cause of this disease. To the toxins developed by this micro-organisms are also attributed the many and important complications and sequelæ that accompany or follow a large proportion of the attacks.

Careful meteorological observations and records kept in Chicago during the prevalence of the epidemic of 1889-'90 showed the presence in the air of a decided excessive amount of both free and albuminoid ammonia, with almost entire absence of ozone. Whether such conditions of the atmosphere could foster the rapid evolution of the bacillus of Pfeiffer could be determined only by similar records kept through both epidemic and non-epidemic periods.

The bacillus discovered by Pfeiffer, and claimed to be the essential cause of

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[7] Assoc. Eds., Annual, '91.
[8] Le Bull. Méd., May 28, '93.
[9] Lancet, Oct. 12, '95.
[10] Brit. Med. Jour., Apr. 15, '93.

influenza, is very small, non-motile, and stains well with methylene-blue.

It is found in great numbers in the nasal and bronchial muco-purulent discharges during the active progress of the disease, and sometimes remains in those localities several weeks after the recovery of the patient. It has been found penetrating other tissues and in the blood, though much less than abundantly, and on culture-media it is said to grow only in the presence of hæmoglobin.

Greenley[11] thinks that influenza is independent of hygrometric, thermometric, and barometric changes. According to Ucke,[12] however, atmospheric conditions bear an important relation to the spread of the infecting agent: the microorganisms are carried high up by the warm currents and are precipitated again to the stratum in which they are effective by the eddies which the cold currents produce. Combe[13] considers transmission of the disease from person to person the exception; the dissemination of the disease is also accomplished, in his opinion, through the atmosphere.

Otremba[14] thinks that influenza is neither contagious nor imported from other localities than those in which it appears, but the microbe of influenza is identical with that of simple coryza, which has attained its "*summum potentiæ*" through favorable telluric or climatic conditions, such as those of temperature or humidity of the atmosphere.

Morris[15] contends that influenza is a paresis, or partial paralysis, of the pneumogastric nerve, depending probably on such a sudden change in the atmosphere as involves an increased expenditure of force in maintaining circulation and respiration. The best remedies are strong excitomotor stimulants, chief among them strychnine, caffeine, alcohol, and ammonia.

J. Dreschfeld[16] emphasizes the fact that inmates of insane-asylums are less liable to be affected with influenza at the time of an epidemic than the inmates of other large institutions, such as barracks, workhouses, etc. An attack of influenza does not materially affect the disease from which the insane patient at the time suffered, and in some cases the effect was a beneficial one. Kern[17] gives statistics of the district prison at Freiburg: of 406 prisoners, 35 per cent. were stricken; of those in solitary confinement, 30 per cent.; of those in common wards, 50 per cent.; of those in communication with the outer world, 70 per cent. The restriction of the outbreak to different corridors shows, in his opinion, that it was not due to a miasmatic influence.

In a series of observations of influenza by Dowd,[18] embracing about 30 cases, the diplococcus pneumoniæ of Fraenkel and Weichselbaum was the predominant form. In six series, embracing 60 or more cases, streptococcus pyogenes was found in the lungs, sputum, and other secretions, and in various exudations. They had probably not been the cause of the influenza, he thinks, but had developed as the influenza provided them with a suitable condition for growth, this development having, perhaps, caused some of the complications.

The physical properties of the bacillus

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[11] Amer. Pract. and News, Mar. 15, '90.

[12] St. Petersburger med. Woch., Feb. 17, '90.

[13] Revue Méd. de la Suisse Rom., May 20, '90.

[14] Bull. de la Soc. des Méd. et Mat. de Jassy, Nov. 3, '90.

[15] Jour. Amer. Med. Assoc., Jan. 3, '91.

[16] Med. Chron., Mar., '98.

[17] Aerztliche Mittheil. aus Baden, Karlsruhe, vol. xliv, No. 7, '90.

[18] Med. Rec., Mar. 29, '90.

were carefully studied by Pfeiffer, Kitasato, and Carron.[19] It occurs in very tiny rods of about the thickness of the bacilli of mouse-septicæmia, but only half the length of these. Often three or four bacilli are strung together in the form of a chain. They stain with some difficulty with the basic aniline dyes. Better preparations were obtained with dilute Ziehl solution or with hot Löffler methylene-blue. In this way it can be seen, almost as a rule, that the two ends of the bacilli take the stain more intensely than the centre; so that forms are produced that can with difficulty be distinguished from diplococci or streptococci. They cannot be stained by Gram's method. In hanging drops they are immobile.

Nasstinkoff[20] suggests a stain for Pfeiffer's bacillus which is better than Löffler's solution or dilute carbol-fuchsin recommended by Pfeiffer. The stain is prepared by adding to a saturated solution of the aniline dye (in absolute alcohol) a sublimate solution instead of distilled water. The author mixes 1:2000 sublimate solution (containing, for better solution of the $HgCl_2$, a little ammonium chloride) with a few drops of aniline oil, and after agitation filters. The clear filtrate is added to the alcoholic solution of the dye. This mixture stains in a few seconds. The bacilli are not decolorized by Lugol's solution after having been stained by this mixture. Eugene Wasden[21] has found that the influenza bacillus, 0.5-1 x 3 reacts peculiarly to staining agents, the poles being deeply stained, with an unstained equator, thus causing a close resemblance to a diplococcus. It is readily stained with dilute carbol-fuchsin, or Löffler's blue solution. It is difficult of cultivation, but there can be no difficulty in detecting it on cover-slips of the catarrhal secretion.

Pathology.—Nathan S. Davis observes that ordinary post-mortem examinations reveal no structural changes peculiar to this disease. These are congested and inflammatory conditions of the mucus membrane either of the respiratory passages or of the digestive organs or of both. In some cases such inflammations have extended into the frontal sinuses, the maxillary antrum, and to the middle ear, and in more cases there are evidences of pneumonia. But all these are regarded rather as complications than as essential features of the general disease. The general febrile symptoms appear to result from the direct action of the bacillus or its ptomaines on the corpuscular elements of the blood and of the cerebral-nerve centre, creating great pain and soreness, with marked depression and impairment of vital resistance. This view is sustained by A. Cantani, Jr., who injected cultures of the influenza bacillus into the brain of rabbits, by which severe nervous symptoms were produced, and from which he inferred the bacillus to be an intracellular poison acting primarily on the central system.

In a post-mortem examination of five cases of influenza, clinically characterized by symptoms simulating those of cerebro-spinal meningitis, Pfuhl[22] found congestion of brain, cord, and membranes, meningeal exudation, flattening of the convolutions, œdema, distension of the ventricles, dilatation of the capillaries, with hæmorrhagic extravasations, and in one of the cases a collection of pus in the cerebellum. In all of the cases bacteriological examination disclosed, in the blood-vessels and lymphatics, the

[19] Deutsche med. Woch., Jan., '92.

[20] "Etiology and Clinical Bact. of Influenza," Inaug. Dissert., St. Petersburg, '94.

[21] Penna. Med. Jour., Nov., '97.

[22] Berlin. klin. Woch., Sept. 26, Oct. 3, '92.

presence of the bacilli described by Pfeiffer as characteristic of influenza. In some situations the bacilli had formed thrombi; they were also found in the liver, spleen, and kidneys. They were commonly associated with the bacilli of decomposition and two different forms of diplococci.

The effects of intracranial inoculation of the influenza bacillus in rabbits were studied by Cantui.[23] Virulent cultures were introduced into the brain by trephining. Severe nervous symptoms, high temperature, and death followed in about twenty-four hours. At the autopsy, at the site of the wound, was an œdema containing numerous influenza bacilli and hæmorrhagic exudation. The brain was markedly hyperæmic, the ventricles often containing a purulent exudation in which numerous influenza bacilli were found. The substance of the brain, on section, showed many small hæmorrhages and numerous bacilli, with polynuclear leucocytes. The bacilli appeared to spread, especially by the lymph-channels. The spinal cord was also invaded to a slight extent, the bacilli passing by the way of the central canal. The processes were generally those of a myelitis, similar to the encephalitis of the brain, but not nearly so severe. The other lesions present were bloody, serous exudate in the peritoneal cavity, acute congestion of the spleen, hyperæmia of the kidney, small hæmorrhages into the suprarenal bodies, and incipient fatty degeneration of the liver. The lungs were injected. Practically the same results could be obtained by inserting a few milligrammes of the dead growth of the bacilli (killed by heat) beneath the dura mater. This proves that the toxins are really the actively hurtful agents.

P. C. Knapp[24] considers that the nervous and mental consequences of influenza in the majority of cases are poisoning by some ptomaine produced by the bacteria of the disease.

Complications.—Nervous System.—J. Dreschfeld[25] concludes that the most common of nervous sequelæ is neurasthenia. The neurasthenia following influenza differs but little from the various recognized types of this affection. We meet with the cerebro-spinal, the spinal, and the sympathetic type. A noteworthy feature of the cerebro-spinal type is the great depression, amounting to melancholia, with suicidal tendencies, so that the term neurasthenia no longer applies to this affection. The spinal form of neurasthenia is a less common sequel of influenza. In a few cases observed it was accompanied by marked symptoms of hysteria. In the sympathetic variety we meet with a group of symptoms, some relating to the heart, others to the sexual organs. Bradycardia, with a slow pulse of 40 or 50, is often observed to occur with influenza; we meet with an irregular or intermittent pulse accompanied by attacks of syncope; occasionally also attacks of the nature of angina pectoris have been noted following influenza, where there was neither gout nor arteriosclerosis nor any other palpable cause for the attacks. In some cases the myocardium is most likely also affected, which may account for the sudden death occurring after influenza.

Among the post-influenzal nervous affections of an organic nature is most important peripheral neuritis. Various forms of peripheral neuritis have been observed. In a few cases all four extremities are affected.

Much more common than the former

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[23] Zeit. f. Hyg. u. Infectionsk., B. 13, '96.
[24] Boston Med. and Surg. Jour., Sept. 15, '92.
[25] Med. Chron., Mar., '98.

is a more limited neuritis, affecting sometimes only one limb or the two limbs on one side. The affection comes on some days or a week after the recovery from the influenza, the patient complaining of more or less severe pain in the limb, some weakness of certain groups of muscles comes on; in the lower extremities the anterior group of muscles of the leg and flexors of the knee are mostly affected; in the upper extremities the scapulo-humeral muscles, or sometimes the extensors of the wrist and fingers become involved; there is generally also dysæsthesia; the reflexes are first increased, afterward diminished, but rarely become quite absent. Recovery is generally very slow.

A third form resembles diphtheritic paralysis. Here there is paresis of accommodation, and in some few cases pharyngeal and laryngeal paralysis, and it is perhaps a nuclear affection rather than a peripheral neuritis.

Fifty-four cases of insanity following influenza were observed by Kern.[26] About one-fourth may be classed among the cases of febrile delirium. They begin as acute hallucinatory confusion, contemporaneous with the fever, and disappear several weeks after the latter has subsided. The post-febrile cases may be divided into three classes: 1. Asthenic psychoses with hallucinations and delusions, sometimes exaltative, at others depressive. 2. Melancholias, from simple neurasthenic or hypochondriac disturbance to profound stuporose conditions. 3. The manias.

Ten cases of psychoses following influenza were seen at the clinic at Bonn by Mispelbaum.[27] The mental disorder set in during convalescence, and was preceded by a sense of fatigue and obstinate insomnia. It was initiated by acute delirium, which in all cases but 2 passed into melancholia of variable duration. Mispelbaum regards the prognosis as favorable. More than half of the 10 cases possessed a neuropathic heredity, and 2 "nervous irritability." Convalescence should be carefully watched and signs of mental aberration combated with stimulants and restoratives.

Jolly[28] considers that influenza is responsible for none of the cases of true psychoses, inasmuch as in 104 cases only 21 were found in which no hereditary tendencies, alcoholism, nor neurotic temperament was absent. Kern,[29] on the other hand, argues that influenza may be the sole etiological element in the development of a psychosis, or it may merely act as an existing factor in disturbing the equilibrium of a nervous system already deranged or in intensifying a latent mental disorder.

Gordon[30] noted two cases of influenza in the course of which pronounced cerebral symptoms developed. The first patient was seized at night with violent headache, localized in the temporal and occipital regions. Two days later there was slight paresis of the right arm and leg. There was complaint of persistent headache and of oppression in the cardiac region, and an examination of the heart showed the presence of tachycardia. The urine contained a large quantity of albumin. Recovery ensued. The second patient had headache and insomnia. There was some delirium, and on the fourth day contractures of the lower extremities.

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[26] Allgemeine Zeitsch. f. Psy. u. Gerichtl. Med., B. 48, '92.

[27] Zeitschr. f. Psychiatrie u. Gerichtl. Med., B. 47, H. 1, '90.

[28] Deutsche med. Woch., Mar., '91.

[29] Münch. med. Woch., Apr. 29, '90.

[30] N. Y. Med. Jour., Feb. 26, '98.

Allyn,[31] speaking of neuritis and multiple neuritis, states that one sex does not seem to be more liable to this complication than the other. It occurs most frequently in persons between the twenty-fifth and forty-fifth years, and appears during convalescence in a few days or two to three weeks after the attack of influenza has subsided. It may present sensory, motor, vasomotor, or trophic symptoms, or all combined; but sensory and vasomotor symptoms are more prominent than in diphtheria and some other causes of multiple neuritis. In the great majority of cases recovery ensues, both as regards restoration of function and power, as well as regards life. He believes that the great majority of cases of multiple neuritis following influenza are, in reality, instances of peripheral neuritis, and intoxication of the nerve-trunks; this may be sufficient to produce rapid destruction of the nerve-fibres or just enough to cause pain by irritation. This is sustained by the fact that the salicylates are useful in these cases, owing to their power of promoting the elimination of some toxic agents.

A case of bilateral neuritis of the brachial plexus suddenly following influenza was observed by M. A. Claus.[32] Complete paralysis of the arm occurred, with atrophy and reaction of degeneration in the paralyzed muscles. The father of the patient had been similarly affected in the lower members also after influenza.

Eye.—Panas[33] remarks that ocular lesions seen in influenza are manifold, but if any predilection is shown it is for the optic nerve and retina, and for various periorbital sinuses. In panophthalmitis enucleation should be deferred when the infection is from a general cause and the patient is in bad condition, but when the origin is local and the general condition is good it should be performed at once.

Pooley[34] says that grippe may affect the eye by inflammatory process or by invasion of the accessory sinuses. It may affect the nervous tissues. The inflammatory affections involve especially the conjunctiva, the uveal tract, tissues of the orbit, and perhaps the fibrous capsule of Tenon. The nervous apparatus of the eye is especially liable to become involved by paresis of accommodation or of the extrinsic muscles of the cervical sympathetic, by papillitis and retrobulbar neuritis, and also anæsthesia of the cornea may occur.

Weeks[35] thinks that neuritis of the optic nerve due to grippe is of relatively rare occurrence; it may affect one or both eyes, and may produce partial transient impairment of vision, partial permanent impairment of vision, or absolute permanent blindness. Failure of vision begins from three to fourteen days after the beginning of the attack of grippe, and proceeds rather rapidly. It is always preceded by intense frontal or circumorbital cephalalgia. Treatment has but little effect to promote a cure. If recovery follows, it takes place spontaneously, and accompanies improvement in the patient's general condition.

From the study of twenty-seven cases of papillary and retrobulbar neuritis following influenza Antonelli[36] has drawn the following conclusions: 1. The virus of influenza may attack the optic nerve in its papillary or in its retrobulbar por-

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[31] Jour. Amer. Med. Assoc., July 24, '97.

[32] Jour. de Méd., de Chir., et de Pharm., May 26, '94.

[33] Revue Gén. de Chir. et de Thér. Jour. des Prat., Apr. 20, '95.

[34] Amer. Jour. of Ophthal., May, '95.

[35] N. Y. Med. Jour., Aug. 8, '91.

[36] Recueil d'Ophtal., June, '92.

tion. 2. The ocular lesions of influenza may be divided into those produced by infection from the exterior and those caused by metastasis. 3. The papillitis due to influenza appears in from three to fourteen days after the commencement of the disease. 4. Retrobulbar neuritis is more common than papillitis or neuroretinitis. It differs from the neuritis due to alcohol, tobacco, or lead, in that it presents an acute or a subacute form, marked by a rapid and progressive diminution of vision. Prognosis should be guarded, improvement being slow, sometimes, though exceptionally, being complete. During the acute stage, leeches to the temples, absolute rest, injections of pilocarpine, quinine, and salicylates internally should be employed. In the later stages iodide of potassium, the continuous current, injections of strychnine into the temples, and mercury are indicated.

Ear.—One hundred cases of aural and cutaneous complications were seen by Eitelberg[37] in an epidemic of influenza. Although very painful, the patients spending sleepless days and nights from the agonizing pains' shooting through the head and shoulders, the cases, as a rule, ended in complete recovery in a comparatively short time.

Hæmorrhagic otitis media is described by Haug[38] as a characteristic of the epidemic. It sets in between the third and seventh day of the disease, and is attended with hæmorrhagic effusion into the tympanum, manifested by intense pain. Spontaneous perforation usually takes place in the course of twelve hours.

Wells P. Eagleton[39] considers that the presence of the influenza bacillus exerts a very unfavorable influence on the bony structures of the ear, often converting apparently simple cases of acute suppurative otitis into very malignant ones, with rapid destruction of bone, and this without marked symptoms. This tendency to rapid bone-destruction should be constantly kept in mind, and can be prevented only by early and, if necessary, repeated paracentesis.

Haug[40] says that in the last five years 214 cases of acute influenza-otitis were observed. In 64 of these the attic or pars epitympanica of the drum-cavity was chiefly affected. The treatment consisted in paracentesis when spontaneous rupture of the membrana did not occur promptly.

Lungs.—Prudden[41] thinks the relation of influenza to pneumonia is that of a predisposing factor only. Leyden[42] states that the course of pneumonia complicating influenza is seldom that of the typical disease: it rarely sets in with a decided rigor, and the inflammatory symptoms, notably the pain in the side, are but little marked. The local processes are not characteristic. Local signs are not detectable before the third or fourth day. Crepitation will be heard over a considerable area, soon disappearing and becoming evident at another. Not often does the process reach hepatization with definite dullness. Typical rusty sputum seldom observed. Crises are rare. The course of inflammation is milder, dyspnœa and rapid infiltration being wanting.

Albu[43] considers pneumonia of influenza as a broncho-pneumonia. It presents the following distinctive features: 1. Evidence of a preceding attack of influenza is generally present. 2. Percus-

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[37] Brit. Med. Jour., July 19, '90.
[38] Münch. med. Woch., Jan. 21, '90.
[39] N. Y. Med. Jour., Aug. 7, '97.
[40] Arch. f. Ohrenh., May, '96.
[41] Med. Rec., Feb. 15, '90.
[42] Berl. klin. Woch., No. 10, '90.
[43] Deutsche med. Woch., Feb. 15, '94.

sion-dullness may be absent or only present for a short time, shifting its position; bronchial breathing may be the only physical sign; moist sounds are most constantly present. 3. The sputum is never typically rusty. 4. The fever usually sets in without shivering, and the temperature rises gradually. 5. The course is less acute, the infiltration disappears slowly, and convalescence is retarded.

A. Fraenkel[44] contends that influenza-pneumonia is characteristically lobular, the inflammatory process spreading from the bronchi to the alveolar passages and alveoli, the latter being densely and almost exclusively filled with leucocytes. In the bronchi their number is so great that they not only penetrate between the epithelial cells, but cause partial detachment of the epithelial lining. The absence of fibrin is noteworthy, and is one of the reasons why the infiltration has, to the naked eye, a smooth appearance. As a terminal stage of influenza pulmonary gangrene occurred in 7.5 per cent. of the writer's cases of influenza-pneumonia. Arteriosclerosis may follow influenza.

Comby[45] believes that respiratory complications are rare and benign in children. Of 218 cases, bronchitis, usually of a mild character, was present in 18. Complications involving organs of special sense were relatively frequent.

(See the next article: PNEUMONIA.)

KIDNEYS.—According to G. Baumgarten,[46] renal lesions are not infrequent following influenza. Besides transient albuminuria, have been observed acute degeneration of the kidney, acute inflammation, both forms of chronic diffuse nephritis, acute hæmorrhagic nephritis, and persistent albuminuria not belonging to any of these groups. The number of applicants rejected for life-insurance has perceptibly increased since the advent of influenza in epidemic prevalence. Bock[47] has noted a case of hæmorrhagic nephritis consecutive to influenza, in a woman 32 years of age, the hæmaturia lasting three weeks. Thorough recovery ensued.

A. Jacobi[48] observes that renal congestion and inflammation are of frequent occurrence in the course of influenza; diagnosis is greatly facilitated by the use of the centrifuge. These conditions appear at the same time as those that occur in the course of diphtheria and typhoid fever, and in each instance probably due to the toxins of the respective diseases. Microscopically the urine under these circumstances contains a small amount of blood, with hyaline casts strewn with granular matter and epithelial cells, and also granular casts of the thin variety. In the nephritis of scarlatina, on the contrary, the casts are of the wider variety. In the majority of cases recovery ensues in from two or three weeks to two or three months. Some, however, pursue a chronic course.

INFLUENCE ON PREGNANCY.—In 157 cases of influenza observed by Rudolph Müller[49] 138 were in the non-gravid and 21 in the pregnant condition. Of the latter, pregnancy was interrupted in 17 cases, and in 4 continued its course. The 138 non-gravid cases showed in all with the exception of 3 alterations in the generative functions—partly by menorrhagia, partly by metrorrhagia, partly by exacerbations of already-existing sexual pains. Hæmorrhagic form of endometritis set in which led in the pregnant

[44] Berl. klin. Woch., Apr. 12, '97.

[45] Revue Mensuelle des Maladies de l'Enfance, Apr., '90.

[46] Medical News, June 8, '95.

[47] Deutsche med.-Zeit., Apr. 2, '94.

[48] Medical News, June 8, '95.

[49] Münch. med. Woch., Oct. 8, '95.

state to abortion or interruption of the pregnancy.

Engel[50] calls attention to the fact that, during the 1890 influenza epidemic, the number of births in Hungary were 41,866 less than during previous years. In September and October alone in 1890, there were 19,768 less children born than in the same months of other years.

Bar and Boulle[51] treated fifty women who had influenza during pregnancy or the puerperal state. In pregnancy grippe affected the nervous system profoundly in one case, the gastro-intestinal tract in two others, while in the majority the respiratory organs were attacked. In one of the intestinal cases pyelitis developed. The majority of pregnant women in whom grippe affected the respiratory organs recovered without especial difficulty. A small number had pneumonia, which proved a serious complication. In one patient otitis and meningitis developed, both caused by the pneumococcus. The sputum of these showed abundant pneumococci. So far as the influence of grippe on the continuation of pregnancy was observed, but a very few cases had metrorrhagia. Labor itself was not especially influenced by grippe.

Goodhart[52] observed a series of 9 cases of thrombosis of the veins of the legs in the course of influenza. All cases ended in recovery.

Skin.—In a case treated by J. J. Pringles[53]—the patient was a tailor, aged 40 years, alcoholic and very neurotic—a recurrent desquamative affection of the skin followed influenza. In February, 1895, he had a typical severe attack and was in bed a month with it. He does not think he had any rash. In the beginning of March his hands and feet began to peel and his nails to become dry and brittle. He came under observation on March 21, when the following note was made: "Over both hands the epidermis is peeling off in large sheets, especially from the fingers, leaving the subjacent skin healthy. There is hypertrophy of the nail-bed of all the fingers, and especially of the thumbs, where the piling up of epidermis is so great as to threaten the vitality of the nail. There is a similar desquamation of the soles and similar changes in the toe-nails, but less marked. The man is in a marked condition of post-influenzal neurasthenia."

Subsequently all his nails fell off, and were replaced by new nails with prominent transverse ridges. His nervous prostration persisted; he complained of persistent "paralytic feelings" in the fingers, and disordered sensation. Finally he became profoundly melancholic, but improved greatly at a convalescent home at the sea-side.

He had another attack of influenza in October, 1895, followed by similar changes and total loss of nails, and again in February, 1896. Recently he had a fresh attack of "bronchitis," and he returned to the hospital on November 4 with desquamation of all the fingers, although more marked in some than others. There is, on examination no anæsthesia, but some loss of tactile sensibility.

Marquie[54] has observed seven cases of influenza in adults distinguished by extremely-copious sweats and a marked tendency to the formation of adipose tissue. The cases commenced with bronchial disturbances; some were accompanied by distressing cardiac palpitations, all with constipation, lack of appetite, and scantiness of urine. The

[50] Centralb. f. Gyn., No. 24, '97.
[51] Amer. Jour. Med. Sci., Dec., '98.
[52] Practitioner, Aug., '95.
[53] Brit. Jour. Derm., Dec., '96.
[54] Jour. de Méd. de Bordeaux, Apr. 16, '98.

sweats continued for months and left a neurasthenic condition, which in some cases persisted for years. The sweats and bronchial disturbances alternated: one diminishing as the other increased and *vice versâ*.

A case of sclerosis of the tongue of influenzal origin was noted by M. Courtade.[55] The middle portion of the tongue was of wooden hardness. This condition followed an attack of influenza in a person of middle age. The pathological change involved the cheeks also. Iodide had no effect upon the disease. Another case was described in which the tongue had assumed an atrophic and mamillated state after an attack of the same affliction.

Prognosis.—Dr. Nathan S. Davis states that, on the whole, the mortality from uncomplicated cases of influenza is very small, probably not exceeding 0.25 of 1 per cent. While this is true, it is equally true that during the prevalance of an influenza epidemic the mortality from tuberculosis, pneumonia, bronchitis, and typhoid fever is greatly increased.

The effect in diminishing the normal vital resistance is longer manifested in regard to typhoid fever and tuberculosis than in any other general disease. One attack affords no immunity to subsequent attacks of the influenza, and there are no known prophylactic measures of value.

Axel Ulrik[56] remarks that, of 528 deaths attributed to influenza, 49 resulted from the uncomplicated disease, 39 from senility, 49 from phthisis, 273 from croupous and broncho-pneumonia, 81 from other affections of the lungs, 5 from pleurisy, and 2 from empyema. Thirty-three deaths were noted from cerebral affections in the course of influenza.

Goldschmidt[57] observed a marked immunity from influenza among inhabitants of Madeira who had been recently vaccinated. In the epidemic of influenza those that had been vaccinated remained free, while those that had not been vaccinated were rapidly infected. This fact suggested as an explanation of the comparative infrequency of influenza among children. Still, Bienfait[58] reported that, of 241 cases of influenza, 86 had recently been vaccinated.

Turney[59] regards the rate of relapse in influenza as not less than 10 per cent. A previous attack rather predisposes than immunizes, and if protection be afforded it is so short as to be clinically negligeable.

Treatment.—Dr. N. S. Davis thinks that to allay the pains and soreness and restore active elimination from the skin, kidneys, and intestines are the rational indications to guide us in the choice of remedies. If called in the early stage of the disease, in all the milder cases he administers a single powder,—containing from 15 to 8 grains of Dover's powder, 3 grains of calomel, and 3 grains of pulverized gum-camphor,—given at bed-time. This is followed in the morning by a saline laxative sufficient to procure two or three intestinal evacuations. This is usually followed by relief of all the more important symptoms; by giving 3 grains of quinine sulphate three times a day for three days the convalescence is completed. In the more severe cases, instead of 1 powder at bed-time, the same is given every four hours until 4 have been taken. The bowels are then acted upon by means of the laxative and fol-

[55] Laryngoscope, Jan., '98.
[56] Corr. Ed., Annual, '91.
[57] Berl. klin. Woch., Dec. 8, '90.
[58] Union Méd. du Nord-est, Apr., '91.
[59] Lancet, Feb. 5, '98.

lowed with moderate doses of quinine alternated with 5-grain doses of sodium salicylate until all the active symptoms have disappeared. When the bronchial symptoms have been persistent, with soreness in the chest, instead of the sodium salicylate Dr. Davis has given, with very good results, a teaspoonful of the following mixture every four or six hours until the chest-symptoms were relieved:—

℞ Ammoniæ hydrochloratis, 3 1/2 drachms.
Ant. et potass. tart., 2 grains.
Hydrarg. bichloridi, 2 grains.
Morph. sulph., 3 grains.
Syr. glycyrrhizæ, 5 ounces.—M.

When the influenza has involved at its beginning so much irritation of the gastric and intestinal mucous membrane that the doses of Dover's powder and camphor would not be retained, he gives instead 4 1/2-grain doses of salol aided by 1 1/2 or 3 grains of calomel at night for the first two days, with entirely satisfactory results. Then smaller doses of the salol, alternated with very moderate doses of quinine, has been all the medication necessary to complete the recovery of the patient. In all cases, during the active stage the patient is kept at rest, and, as far as practicable, in a well-ventilated, warm, but not overheated room.

When the temperature reaches 104° F., it is readily reduced by free sponging of the whole surface or a few doses of aconite or veratrum viride. The diet should be light and carefully adjusted to the ability of the digestive organs to receive and appropriate it. When pneumonia or any other complicating disease supervenes, Dr. Davis treats it on those principles that would govern its treatment under other circumstances. Cases of heart-failure may require the diligent and protracted use of strychnine, strophanthine, and other vasomotor tonics, with rest and fresh air.

In the painful form of influenza Dujardin-Beaumetz[60] gave antipyrine and exalgin the first place. These failing, injections of morphine were resorted to. In the gastro-intestinal form he enjoined absolute rest in the recumbent posture, and administered preparations of opium, paregoric being considered the best. In the catarrhal form he gave quinine, 4 grains, morning and evening, alone or combined with antipyrine, 15 grains. In pulmonary complications he advocated cardiac tonic treatment and employed the following:—

℞ Caffeine,
Sodii benzoatis, of each, 30 grains.
Aquæ bullientis, 1 1/2 drachms.

M. Sig.: Fifteen minims b. vel t. d., subcutaneously.

If possible convalescence should be spent in the country.

Calomel.—Freudenthal[61] claims to have discovered in calomel a true, absolute, and unfailing specific for the treatment of influenza. The author has employed it during the last five years, and with invariable success. It must, however, be administered on the first or second day, but not later than the third day, as then its specific abortive treatment is lost. The calomel is given in doses of from 1 to 1 1/2 grains for children, or in doses of 1/6 grain for each year of the age. Two or three doses always suffice to produce the favorable effects. In a statistical table of thirty-two cases the average duration was three days. That the epidemic was not of a mild type, or

[60] Bull. Gén. de Thér., Jan. 15, '90.
[61] Therap. Monats., Oct., '97.

that the cases are not selected ones, the severity of the initial symptoms, the temperature of 105°-106° F., the severe cough, hallucinations, etc., prove conclusively. In many cases the calomel was the only medication needed; in others, mild antipyretics and diaphoretics were added.

Aladar Bekess[62] states that the treatment should be symptomatic. In the beginning a laxative, preferably calomel, in doses of 2 to 5 grains for adults (one-tenth the amount for children), is given. The calomel is divided into three powders, given at intervals of one hour. As long as the fever lasts rest and a fever diet are indicated. The writer uses almost exclusively salipyrin as an evening dose,—15 grains. For children one-tenth to one-half the above-mentioned doses, according to age. With this remedy he has obtained the best results. Ten grains are prescribed at night for three to five days after the fever has disappeared. Even after the fever has fallen to the normal the patient should be confined to his room for a number of days.

Quinine.—Sulphate of quinine is strongly recommended by Gellé[63] in the treatment of influenza. Large doses should be administered, in accordance with the age and temperament of the patient and the severity of the attack.

Quinine is also believed by Graeser[64] to have a specific action. Fractional doses must not be given, but one massive dose for the entire day, preferably in solution.

At the onset of an epidemic every member of Tranjen's[65] battalion was given 4 1/2 grains of sulphate of quinine daily, and manœuvres in the open air forbidden. This was continued for twelve days. While the epidemic spread in the immediate vicinity of the barracks, few of the soldiers were affected. Similar good results, however, were not had when the disease already existed. Then antipyrine rendered the greatest service.

The regretted Dr. Pepper[66] gave preference to the following formula:—

℞ Quin. sulph., 45 grains.
Pulv. digitalis,
Pulv. scillæ, of each, 15 grains.
Ext. opii, 5 grains.
Ext. glycyrrhizæ, q. s.

M. ft. pil. No. xxx.
Sig.: Four pills daily.

H. C. Wood[67] considers that the best results are obtained from diaphoresis followed by quinine. Combination of pilocarpine and morphine found to act better than antipyrine:—

℞ Pilocarpine hydrochlorate, 1/2 grain.
Morphine sulphate, 1/3 grain.
Aqua, 3 ounces.

M. Sig.: A teaspoonful every fifteen minutes, by mouth.

Huchard[68] recommends for the severe nervous prostration alcohol and quinine and in bad cases even injections of caffeine and ether. In the neuralgic or rheumatoid form of influenza, antipyrine, 15 grains, combined with the bicarbonate of sodium, 7.5 grains, is recommended every four hours.

Stimulants.—Landouzy[69] recognizes that the pressing indication to be met in asthenic patients lies in the state of their

[62] Wiener med. Presse, Aug. 15, '97.
[63] Jour. de Méd. de Bordeaux, Mar. 9, '90.
[64] Deutsche med. Woch., No. 51, '93.
[65] Berl. klin. Woch., Feb. 17, '90.
[66] Medical News, Dec. 18, '98.
[67] University Med. Mag., Mar., '90.
[68] Revue Gén. de Clin. et de Thér., Dec. 12, '89.
[69] La Presse Méd., Jan. 29, '98.

forces, which need sustenance. Stimulating remedies should occupy the first place. Thus, alcoholic liquors, diffusible stimulants, and tonics should be made the basis of medication. The salts of quinine, selected and administered with judgment, will not only control many of the pains of the disease, but will relieve the weakness and stimulate the patient.

The following combination is highly recommended by Baccelli[70] for influenza ushered in by severe fever and nervous disturbances:—

℞ Quin. salicylate, 3 grains.
Phenacetin, 2 grains.
Camphor, $^1/_3$ grain.—M.

The above dose to be administered up to six times in twenty-four hours.

Coal-tar Preparations. — E. T. Bruen,[71] as far back as 1889, regarded acetanilid (antifebrin) of service in allaying the spasmodic cough of influenza associated with bronchial catarrh and, in some cases, with subacute bronchitis. It has been extensively used, and with advantage in many cases, but its debilitating influence has caused it to lose the confidence of many practitioners. Indeed, the depression following the acute attack of the disease is, in part, attributed to the administration of large doses of coal-tar preparations: antipyrine, phenacetin, and antifebrin.

Care should be taken in administering these drugs in children. Childs[72] has noted a case in which acetanilid has been given in doses of 25, 15, and 10 grains, respectively, within twenty-four hours, with toxic effect: cyanosis, syncope, subnormal temperature, and excitement.

B. M. Smith[73] considers phenacetin the safest and best remedy in the influenza of infants. Having used it for five years or more, nearly every day, the writer has never yet met with a single case of depression. He has given as high as 5 grains at a dose to an infant 18 months of age, with no depression. It was used in this case on account of a threatened convulsion, which passed away, and the child quieted down and went to sleep. He rarely gives over 6 grains to an adult, and only once gave so large a dose as 5 grains to an infant; but generally gives from $^1/_2$ to 2 grains to children, with careful directions when to stop it.

Clemow[74] strongly advises phenacetin in from 4 to 10 grains. The second dose is given an hour after the first, and repeated every four hours if the patient is not relieved. P. O. Stimson[75] recommends it in small and frequent doses. The drug does not cause gastric disturbances, it is prompt and decided in its action, it has not cumulative effects, and it is much safer for children and old people than is opium.

Kryofin, used by Bresler[76] as an antipyretic in sixteen cases of influenza, led him to conclude that it prevents a rise of temperature instead of reducing a temperature already elevated. Seven grains and a half may be given daily.

Maclagen[77] gives salicin, 20 to 40 grains every hour, for three or six hours; then every two hours for a day; after that, at long intervals. Convalescence commenced in twenty-four hours in all cases, and, in most, in twelve hours. There were no serious complications.

The administration of large doses of

[70] Gazzeta degli Ospedalie e delle Clin., No. 43, '98.
[71] University Med. Mag., Jan., '89.
[72] Atlanta Med. and Surg. Jour., Feb., '91.
[73] Pediatrics, July 15, '97.
[74] Brit. Med. Jour., June 27, '91.
[75] Med. and Surg. Rep., Nov. 21, '91.
[76] Ther. Monats., Oct., '97.
[77] Lancet, Jan. 11, '90.

salicin, 20 grains every hour, is advocated by Turner.[78]

Thompson S. Westcott[79] observed a case of influenza with persistent respiratory failure in an infant of 4 weeks.

Up to midnight of the first day twenty-nine distinct attacks af alarming apnœa had been counted, and during the next twelve hours fully as many, if not more, occurred.

The treatment embraced bromides at hourly intervals till complete relaxation was obtained, tincture of digitalis in half-drop doses every two hours, atropine sulphate hypodermically in dose of $^1/_{150}$ grain about every three hours. After thirty hours, when it did not seem that there was any hope of recovery, $^1/_2$ grain of antipyrine, hypodermically, was given, with what seemed to be immediate improvement, and after six hours the child was practically out of danger, except for the general weakness. Three doses of antipyrine were given, the last one about sixteen hours after the more severe symptoms had subsided, when the tendency of cyanosis again became alarming. This was followed by a prompt and definitive cessation of all alarming respiratory symptoms.

Miscellaneous Preparations.—According to an editorial,[80] no drug has given more favorable results in the treatment of influenza than benzoate of soda. It may be given in capsule or powder form, the usual dose being 10 grains three or four times a day. When muscular symptoms are pronounced, the following combination acts admirably:—

℞ Sodii benzoas, 2 drachms.
Salol, 1 drachm.
Phenacetin, 36 grains.

M. et ft. chart. No. xii.

Sig.: One powder every four hours.

Eichhorst[81] finds subcutaneous injections of pilocarpine followed by excellent results. Pyrexia may be met by cold sponging, cold affusions, the cold pack, or the cold bath. Antipyrine, antifebrin, and kindred remedies largely used during the epidemic, and rendered excellent service.

The internal administration of carbolic acid is recommended by S. H. Dessau[82] in cases of a mild irregular type of influenza. After an experience of three hundred cases the writer pronounces it very efficacious. The dose given was a teaspoonful of a 1-per-cent. solution for a child of 5 years, administered every two hours until decided improvement was noticed, and afterward at longer intervals.

Allyn[83] states that, in multiple neuritis following influenza, treatment should consist first in absolute rest in bed. Anodynes must be given in sufficient doses to relieve pain, when that is a prominent symptom. The antipyretic anodynes are insufficient in safe doses if the patient has pains for many days. Cinchonidine salicylate is distinctly valuable. At a later stage potassium iodide and mercuric chloride in small doses are helpful. When the pain is seated in an extremity firm pressure with a flannel bandage yields great comfort. Blisters over the painful nerve-trunks when they are superficial are also valuable in relieving pain. Close watch must be kept on the action of the heart and the character of the breathing. In most of the fatal cases death results through paralysis of the diaphragm. The

[78] Lancet, July 18, '91.
[79] Pediatrics, July 1, '97.
[80] Amer. Medico-Surg. Bull., Nov. 25, '97.
[81] Corres. f. Schweizer Aerzte, Mar. 1, '90.
[82] Med. Rec., Sept. 12, '96.
[83] Jour. Amer. Med. Assoc., July 24, '97.

closest attention must be given throughout the course of the case to the nutrition of the patient and to the condition of the skin, especially over portions of the body exposed to pressure. As far as possible the stomach should be reserved for food.

In the treatment of the cardiac complications of influenza Curtin and Watson[84] rely upon alcohol as of the first importance in cases of simple heart-failure. Caffeine citrate and cactus grandiflora proved next in value. Nitroglycerin appeared to act well in the aged and in gouty cases at any period of life, and strychnine was also of great service.

Haug[85] says that if the exudative form of aural complications is severe, local blood-letting in the temporal region, ice-bags behind or about the ear, and in some cases iodine locally to the mastoid, form the treatment. Subsequently, if paracentesis cannot be performed, warm instillations into the external auditory canal are to be made hourly. If pain increases and the temperature rises, while exudation is detected in the middle ear, with pain and sensitiveness in the mastoid region, paracentesis affords the greatest relief. Inflation to be practiced, and the canal syringed with an antiseptic solution and packed with gauze.

Quinine, according to Ingals,[86] has a decided effect in relieving the neuralgic symptoms.

For the cephalalgia and rachialgia a blister to the nucha is recommended by Peter.[87] The pulmonary hyperæmia may be relieved by a like application to the chest. Convalescence requires quinine.

Nothnagel[88] recommends the faradic brush in the treatment of the neuralgias of influenza. The painful nerve is included between the two buttons of a brush especially constructed for the purpose, or between two ordinary wire brushes, kept stabile, and a faradic current, at first weak, but gradually increased in intensity. The application lasts from half a minute to two minutes. From eight to thirty *séances* are necessary.

Johnson[89] remarks that rapid relief is obtained from the headache and the general nervous and digestive symptoms by the employment of copper arsenite in doses of $^1/_{100}$ grain.

Gilchrist[90] speaks of a case of influenza which terminated in pneumonia in which, when fatal results were expected from the disease and collapse was threatened, the administration of strychnine and of inhalations of oxygen produced most remarkable results on two occasions. Tincture of strophanthus, from 1 to 5 minims, with milk and cognac is recommended by Giovanni,[91] and in grave cases inhalations of oxygen and subcutaneous injection of strychnine.

In cases seen early, especially those presenting pleurodynia or pleuritic symptoms, S. Solis-Cohen[92] gives the following:—

℞ Salol, 3 grains.
Terpin hydrate, 3 grains.
Mix in powder or capsule.

One powder or capsule is given every two, three, or four hours, according to the indications of the case, and this treatment is kept up for from twenty-four to thirty-six or even forty-eight hours, according to the progress of the symptoms and of lesions, in case the pleura or lung

[84] Inter. Med. Jour., Jan., '93.
[85] Münch. med. Woch., Feb. 25, '90.
[86] Jour. Amer. Med. Assoc., Oct. 10, '91.
[87] Le Bull. Méd., Jan. 19, '90.
[88] Zeit. f. klin. Med., vol. xvii, Nos. 3 and 4, '90.
[89] Med. Summary, June, '91.
[90] Brit. Med. Jour., Feb. 13, '92.
[91] L'Observatore, Torino, Jan. 25, '89.
[92] Phila. Polyclinic, Apr. 4, '96.

be involved. In the latter case strychnine sulphate from $^1/_{100}$ to $^1/_{30}$ grain is combined with it. If cough is sufficiently troublesome to require sedatives, codeine (from $^1/_{24}$ grain to $^1/_{10}$ grain) is likewise added.

PNEUMONIA.

Symptoms.—Richard Van Santvoord[93] shows by sphygmographic tracings that in pneumonia the primary wave is generally sharply pointed, with but a faint indication of the tidal wave. This form of pulse-curve was strongly pronounced in all cases in which the constitutional symptoms were very marked. The general arterial pressure was often low. When the general arterial tension was weakened, as a result of feebleness of the heart or vasomotor paralysis, the blood tended to gravitate to the more dependent parts. The peculiar position assumed by those suffering much from dyspnœa was favorable to the development of cerebral anæmia, and this, in turn, probably explained certain nervous phenomena observed in pneumonia. In pneumonia, owing to the increased strain thrown on the right heart, there was congestion of the abdominal organs, especially of the liver.

F. P. Denny[94] calls attention to a type of pneumonia depending on streptococcic infection, described by German writers. The onset may be like that of ordinary pneumonia; often it is less sudden. The sputum is more purulent and is less often "rusty"; besides the streptococci, pneumococci are often found. The appearance of the patient is characteristic; there are less flushing of the face and a peculiar septic look. The temperature is irregular. There is often no crises, but the temperature comes down by lysis, often after a course of three or four weeks. The physical signs usually appear late and the upper lobes are more frequently involved than in the ordinary form. The local process has a tendency to wander. So marked is this that it has been called "erysipelas of the lungs." The most characteristic feature of all is the long duration of the physical signs. Dullness, bronchial breathing, and moist râles may often be heard six or seven weeks after the onset of the disease. There may be great prostration, and it is often months before the patient has recovered from the severe sepsis.

According to Carmichael[95] catarrhal pneumonia is essentially the pneumonia of infancy. There are three varieties of the disease: (1) in which the disease runs an acute course, ending by crisis or rapid lysis, and is attended with physical signs of ordinary bronchitis; (2) in which the disease has a lobular distribution, with obscure physical signs; (3) in which the disease, having a lobular distribution, presents more distinct physical signs.

Regarding the clinical peculiarities of ether-pneumonia, Anders[96] says that the clinical features bear a striking similarity to those of secondary pneumonia; as also do the morbid lesions, according to the distribution of the areas implicated, and as evidenced by the physical signs. It has been frequently observed that there is some tendency in secondary pneumonia to commingling with small areas of broncho-pneumonia. Moreover, the lung-tissue surrounding the hepatized areas is apt to be more extensively congested than in the primary form. Microscopically, the combined presence of the streptococcus and the micrococcus lanceolatus has been noted.

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[93] Medical Record, Apr. 30, '98.
[94] Boston Med. and Surg. Jour., Apr. 14, '98.
[95] Edinburgh Med. Jour., Aug., '98.
[96] University Med. Mag., Aug., '98.

Diagnosis.—F. P. Denny[97] contends that the diagnosis of streptococcic pneumonia must be based on the presence of the streptococcus in the sputum; typhoid fever, influenza, and tuberculosis have to be excluded. The prognosis is better as regards life than in ordinary pneumonia, but a longer course is to be expected.

Etiology.—S. Solis-Cohen[98] believes that acute lobar pneumonia may be due to infection or to cold, trauma, etc. He is not satisfied that the pneumococcus is the causal agent in the cases of the infectious class, but emphasizes the fact that it is infectious and that we have to deal with both toxic and mechanical effects.

Haedke[99] reports four cases of pneumonia with peculiar symptoms, occurring in one family. The disease began with great weakness, dyspnœa and cough, without expectoration, and it ran an irregular febrile course, developing signs of lobular consolidation. The cases developed one after the other and three were fatal. One case was examined postmortem, and from the lungs, the liver, and the spleen colonies of streptococcus longus and of a bacillus were obtained. The latter seemed, from its cultural and morphological characteristics, to be the bacillus proteus vulgaris. Injection of cultures killed guinea-pigs, but the bacillus was not found in their bodies. The organism was highly pathogenic to mice, however, and cultures of the bacillus were obtained from the bodies of the dead mice.

In discussing the acute pneumonia of childhood Carmichael[100] says that bacteriology demonstrates that the pneumonia of infancy can in no wise be considered a specific disease, in the sense that it is due to any special organism, as similar, if not identical, pathological changes are produced in the lung-tissues by various organisms. The reason why the same infection that produces a catarrhal pneumonia in infants should produce a fibrinous pneumonia in adults or in children over 5 years of age is explained by the fact that the alveoli of the lung are not fully developed until about the fifth year of extra-uterine life.

Anders[101] says that he has collected statistics of 12,842 etherizations, 30 of which were followed by pneumonia.

Regarding the cause of such pneumonia, the writer says that careless exposure to cold, etc., will not explain all cases. He also states that the theory that infection takes place from the mask or cone used is not supported by facts, as in hospitals, where a fresh sterilized towel was employed, the percentage of pneumonia was not less than that where a fixed apparatus was employed. The writer is inclined to attribute some weight to the fact that mucus from the nose and throat, being drawn into the trachea during narcosis, may predispose the patient to an attack of pneumonia. The greater likelihood that a gynæcological operation will be followed by pneumonia is due apparently to the greater length of such operations.

Complications.—Phlegmasia alba dolens, or phlebitis of the veins of the leg, is a complication of pneumonia very seldom observed. J. M. Da Costa,[102] however, calls attention to three cases that have come under his observation, in two of which the disease was double-sided. The symptoms are exactly like those seen in the phlegmasia alba dolens of typhoid fever. The phlebitis comes on late in the

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[97] Bos. Med. and Surg. Jour., Apr. 14, '98.
[98] Philadelphia Polyclinic, Jan. 22, '98.
[99] Deutsche med. Woch., Apr. 7, '98.
[100] Edinburgh Med. Jour., Aug., '98.
[101] University Med. Mag., Aug., '98.
[102] Phila. Med. Jour., Sept. 10, '98.

malady, more as a consequence or sequel than as an integral part. Slight rise of temperature, with occasional chilly sensations, and a sense of weight and stiffness and pain in the leg, sometimes very severe, are its early manifestations. The leg becomes sensitive, and is very painful on any attempted motion; the tenderness often shows itself first on pressing the calf. The swelled limb is white or mottled, and has a hard, but elastic, feel; it does not pit at all on pressure or pits but slightly, and, while the veins presumably are affected and the internal saphenous and the femoral are prone to be prominent, one will not always, as might be expected, find them tender or manifestly altered. The disease gradually subsides; but aching, some numbness, stiffness, and want of control over the affected leg may remain for a considerable period, and, with pain and swelling, are likely to return on undue exertion.

The cases are too few to make a definite statement regarding the leg that is most likely to be affected. As in the milk-leg of typhoid fever, the writer believes it is the left that suffers for the most part. Of 9 cases, which are all he can find recorded in medical literature, and of which 3 are his own, 5 were on the left, 2 on the right, and 2 were bilateral.

Two interesting and unusual complications of pneumonia were observed by Charles J. Aldrich[103]: The first consisted of an ascending neuritis of the phrenic nerve with extension to the brachial plexus, followed by recovery, with permanent atrophy of a part of the shoulder- and arm- muscles. The second was an inflammation of the right parotid gland resulting in suppuration.

Prognosis.—M. Howard Fussell[104] gives a report of 134 cases of pneumonia. The mortality was 16.4 per cent. In 4 of the fatal cases there was a history of chronic alcoholism; in 3 cases advanced cardiac disease was a concomitant; 2 cases occurred in pregnant women, both of whom aborted and died within a few hours. From this series of cases it appears that, in ordinary practice, more than one-half the total number of cases occur previous to the tenth year of life, and the highest mortality is observed in infants less than one year old. Between the ages of five and twenty-one there were no deaths in a total of 32 cases. The fear of falling is a most characteristic symptom of pneumonia in children, giving a hint as to the nature of the illness even before the physical signs are evident.

Charles G. Stockton[105] says there is a feeling that a degree of leucocytosis has something to do with the decline of pneumonia, and the safety of a given patient depends on this degree.

Prophylaxis. — Robinson[106] believes that pneumonia is contagious and may be communicated to those near the patient. Cases of this disease should, therefore, be isolated, and those in attendance should be warned against unnecessary breathing of the patient's exhalations, and such disinfectants as creasote should be vaporized in the room. Sputa from pneumonia-patients should be disinfected, and those in attendance should use antiseptic washes for nose and mouth.

Anders[107] thinks that the treatment of the patient before an operation which is most likely to lessen the danger of subsequent pneumonia includes the cure or amelioration of any existing bronchitis or rhinitis. At all events, a thorough

[103] Medical News, Nov. 5, '98.
[104] New York Med. News, Mar. 5, '98, p. 297.
[105] Medical Record, May 14, '98.
[106] Medical Record, Feb. 19, '98.
[107] University Med. Mag., Aug., '98.

cleansing of the mucosa of the naso-pharynx is imperative. To this should be added a mouth-wash of some efficient antiseptic solution, and a similar spray for the throat. The head of the patient should be turned to one side from time to time during the operation to allow the escape through the mouth and nostrils of the mucus which collects in the pharynx. And the time of anæsthesia should be shortened, as much as possible, consistent with the thorough execution of the operative procedures. In long operations, especially, the cooling of the skin of the patient should be guarded against.

Treatment. — Pane[108] treated nine cases of pneumonia with antipneumonic serum during a recent epidemic of pneumonia in Naples which was of a grave type. The quantity of serum used varied from 10 to 110 cubic centimetres. Death occurred in one case, but here the treatment was not adopted until the fifth day of the disease, and then the serum was used only in small quantities (10 cubic centimetres). In all the other cases the effect of serum-treatment was markedly good, inducing rapid improvement of the symptoms. No intolerance nor ill effects were observed. As an average dose, the author recommends 20 cubic centimetres per diem.

De Renzi[109] advises the frequent use of a mouth-wash of sublimate solution (1 in 5000) or acid. salicylic. (1 in 500), both as prophylactic and as a germicide, killing the pneumococcus, which is frequently found in the mouth. As to drugs, the only one the writer recognizes is alcohol (ethylic), which he is in the habit of giving to all his cases. Since the introduction of the antipneumonic serum (prepared by Pane), he has used it with very gratifying results. No bad results have followed injection, and in 1 case as much as 200 cubic centimetres was injected in the course of twenty-four hours. The most marked effect was the lowering of the temperature.

Fanoni[110] reports a case of grave pneumonia of the left lower lobe in which injections of de Renzi's antipneumococcic serum were commenced on the fourth day, 10 cubic centimetres being given twice daily until 70 cubic centimetres in all had been administered. The fever disappeared on the ninth day.

Weisbecker[111] has been successful in the treatment of pneumonia with serum-injections. The quantity of serum used was 10 cubic centimetres in adults and 5 cubic centimetres in children. In all cases the improvement in the general condition was most striking. This was so pronounced in several cases that the patients had no appearance of illness except fever and the local signs. The fever and the secretion of sweat showed no constant relation to the injections. In several cases in which the local process was already advanced when the injections were given, the course of the fever became very irregular, and, in cases that had previously exhibited excessive sweating with the continuance of the disease, this ceased after the use of the serum. In cases injected very early distinct consolidation of the lungs did not develop and when partial consolidation had developed the local signs never became as intense as usual, but they continued to develop, while the general condition remained extremely good, as a rule. The only fatalities were in 2 cases, 1 from cardiac insufficiency and the other from extreme emphysema.

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[108] Gaz. degli Osped. e delle Clin., Jan. 30, '98.

[109] Gaz. degli Osped. e delle Clin., Feb. 13, '98.

[110] N. Y. Med. Jour., May 7, '98.

[111] Münch. med. Woch., Feb. 22, '98.

The epidemic was a very severe one and a large number of uninjected cases died.

William H. Welch[112] repeated all of Klemperer's experiments and found it very difficult to demonstrate a toxin in the blood of those who had recovered from pneumonia. He injected a stronger culture into rabbits and it did not kill them. It is not true that antitoxin appears in the blood of a person in the crisis of pneumonia; on the contrary, the toxin is stronger at that time. Thus one and one-half cubic centimetres of the blood of a person convalescing from pneumonia three or four days after the crisis was rapidly fatal in small amount to rabbits.

V. C. Vaughn[113] agrees that the pneumotoxin is preventive only to a certain degree, and this only temporarily so; the result, too, depends on the leucocytosis that exists at the time. There is no promise at the present time of making the pneumotoxin of therapeutic effect.

Elfström[114] has noted that in the work of the Klemperers on pneumonia-serum the potency of the filtered culture was increased by subjecting it to a temperature of from 41° to 42° C. Acting on this suggestion, he has taken blood from patients with infectious diseases, heated it to a temperature of 60° C., and reinjected the patient's own serum. Four cases of pneumonia were treated in this way with their own serum, with results that seemed doubtful, though encouraging.

Maragliano[115] states that he has established beyond doubt the specific action of digitalis on the pneumonia-coccus. A very small amount will kill the cocci in a culture and also neutralize the toxicity of pneumonia-toxin in injections.

Leonard Weber[116] says that there is no real treatment for pneumonia, except a symptomatic one. He uses an infusion of $^1/_2$ drachm of the leaves of digitalis to 7 ounces of water, and gives one tablespoonful of this every two hours. This he does at the beginning of the disease, when the pulse indicated that the heart will soon show signs of weakness. The wet pack to the chest is also of service. As supporting measures in pneumonia the free hypodermic use of strychnine and camphorated oil are favored. Ayling[117] combines the tincture of ferric chloride with the tincture of digitalis.

Solomon Solis-Cohen[118] advises venesection in strong patients seen early Aconite may be used before consolidation, and nitroglycerin after hepatization. He gives salts of ammonium as a routine, and if the fever is high uses hydrotherapy, while low temperature with depression is treated with heart-stimulants and oxygen-inhalations. In cases showing moderate temperature he uses a jacket-poultice. Strychnine is commonly useful, alcohol but rarely. Oxygen-inhalations are to be used whenever there is severe dyspnœa.

Andrew H. Smith[119] states that in some cases of pneumonia the outcome seems to depend entirely upon the ability of the right heart to move the mass of blood through the lung. These cases are marked by dyspnœa, cyanosis, and a generally congested condition of the vascular system. The right side of the heart will be found, on percussion, to be enlarged, and there will be decided accentuation of the pulmonary second sound. In this class of cases the writer

[112] Med. Record, May 14, '98.
[113] *Ibid.*
[114] N. Y. Med. Jour., Aug. 27, '98.
[115] Gaz. d. Osp. e d. Clin., No. 31, '98.
[116] Medical Record, Apr. 30, '98.
[117] Brit. Med. Jour., July 23, '98.
[118] Philadelphia Polyclinic, Jan. 22, '98.
[119] Medical News, Apr. 30, '98.

thinks nitroglycerin is of value. With increasing experience he also feels more and more confidence in strychnine as a cardiac stimulant.

In a series of sixty cases of lobar pneumonia observed in Bellevue Hospital and treated by A. Alexander Smith[120] all the patients were urged to drink water very freely. During the acute stage the diet consisted chiefly of milk, broths, soups, jelly, and eggs, when the patient was able to take them. Koumiss and matzoon were also allowed. When pain was a marked feature during the first days of illness morphine was used sufficiently to relieve it. As most of the patients were alcoholic and delirium was a prominent feature, with wakefulness, hypnotics were used, but always with care, the choice of these depending somewhat upon the amount of delirium. In some of the cases 20 to 30 grains of chloralamid at night gave satisfactory results. In others a combination of bromide with moderate doses of morphine seemed to work more satisfactorily. Sulphonal and trional were also employed in the early stages in some cases and apparently produced no depressing effects. Alcohol in the shape of whisky was used in a large proportion of cases, but more especially because the patients were alcoholic and on account of its sedative effect rather than as a cardiac stimulant. Cathartics were used as indicated and as a routine practice in cases which were seen early in the development of the disease.

Of the coal-tar preparations, a combination of phenacetin and caffeine was employed in some of the cases seen early in which there were severe headache, dry skin, high temperature, severe muscular pain, and marked restlessness. This was given in small doses,—phenacetin, 5 grains, and caffeine, 1 grain,—and repeated every three, four, or five hours, the indication being the moderate reduction of temperature, if along with this reduction the unpleasant symptoms mentioned were decidedly relieved. This combination was not used in any instance after the third day. Digitalis was used only in cases in which there was vulvular cardiac disease with predominant dilatation.

Strychnine and glonoin were used in a large proportion of the cases as a routine and from the beginning of the treatment. Strychnine was given in doses of from $^1/_{50}$ to $^1/_{30}$ grain every three or four hours according to the severity of the case and the effect produced. Glonoin was given every two hours in the daytime and every three hours at night in doses of $^1/_{50}$ grain.

Baths in the form of the bed-bath or sponge-bath were given in cases in which there was high temperature (above 103° F.) and marked restlessness. No plunge-baths were given. The temperature of the baths ranged from 75° to 65° F. In ten cases compresses were applied to the thorax at at a temperature ranging from 75° to 65° F., the indication being the same as for the giving of the bed-bath or sponge-bath. A sheet doubled four times was dipped in water at the temperature named and was then wrapped around the patient from the axillary region down to the hips.

It was noticeable that in the cases in which the compress was applied there was at first objection on the part of the patient, but within twenty-four hours it would be asked for and welcomed.

In cases in which pulmonary œdema developed or in which cyanosis was a marked feature, inhalation of compound oxygen gave great relief. This was administered freely for from six to eight

[120] Medical News, Dec. 24, '98.

minutes at a time at intervals of from half an hour to two hours.

According to M. Howard Fussell,[121] administration of drugs and the use of local applications have absolutely no effect upon the course of the disease. The proper treatment consists of rest and the care of the heart. Rest should be as absolute as possible. The patient should not be allowed to rise to have a movement of the bowels, but should use the bed-pan. If delirium is present, a hypodermic injection of morphine should be given.

When, in spite of absolute rest the heart begins to fail, strychnine, digitalis, and whisky must be used. Strychnine, given hypodermically, $^1/_{20}$ grain every three hours, will frequently abort a threatened collapse. Digitalis and whisky are also valuable agents in pneumonia. When there is much pain and consequent embarrassment of breathing, the application of a poultice affords immediate relief.

A cold bath, when the temperature is high, gives the greatest relief.

In the treatment of bronchial pneumonia complicating measles Carr[122] advises that the patient be kept in a room at a temperature of from 65° to 70° F., with free ventilation. The nares should be washed with a solution of boric acid, and the skin with water at from 100° to 105° F. The patients should be kept quiet, counter-irritation to the chest in the form of mustard plasters applied, and the atmosphere kept moist. In regard to diet, it should be good and of about the quantity given to a healthy child. Peptonized milk, beef-juice, egg-water, jellies, custards, etc., are the best foods. In case of intestinal fermentation, irrigation with normal salt solution should be employed. Baths at 95° being reduced to 85° during immersion are the best antipyretics. Codeine should be used if there is restlessness, and if there is a weak heart nitroglycerin and strychnine are the best stimulants. Among the expectorants, aromatic spirit of ammonia and creasote are the most valuable.

Alfred Stengel[123] points out that the delay in resolution in pneumonia may result from improper aëration of certain areas of the lung, from poor circulation, and from a reduced state of the general health. Under the operation of these causes the tendency which exists in every case of pneumonia to some interstitial thickening is much enhanced, and measures must be taken to counteract it. Counter-irritants, such as blisters and the cautery, and active pulmonary exercise are recommended. A case is reported in which resolution, delayed for a month, occurred a few days after an artificial abscess had been produced by the injection of turpentine, and this favorable result is ascribed to the changes of the blood induced by the suppuration.

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[121] New York Med. News, Mar. 5, '98.
[122] Medical News, Nov. 19, '98.
[123] Phila. Med. Jour., Jan. 8, '98.

Cyclopædia of Current Literature.

ABORTION, PREVENTION OF.

One frequently sees women that are usually regular pass over a catamenial period. Their suspicions may be aroused, but at the appearance very soon thereafter of the menstrual flux, though it

should be accompanied by an increased discharge and more pain, it is looked upon as only a delayed period, they being unaware that one of the clots which has been expelled contained the immature ovum. In such instances, as well as in habitual abortion, the author advocates the exhibition of 5 to 8 grains of acetanilid, repeated in one, two, or four hours as necessary. In cases of ovarian irritation, where there seems to be a tendency to separation of the ovum at what would have been a menstrual period, the more or less regular use of viburnum prunifolium and potassium bromide, with acetanilid at the time of each periodic disturbance, is recommended. In emergency cases acetanilid, 10 to 15 grains, repeated at short intervals, should be given. For those who are not accustomed to this drug it would be well to begin with 5 to 7 $^1/_2$ grains; but in every instance individual susceptibility should be considered. Harnsberger (Journal Amer. Med. Assoc., Oct. 22, '98).

APPENDIX, METHODS OF PALPATING.

The examiner, standing at the patient's right, begins the search for the appendix by applying two, three, or four fingers of his right hand, palmar surface downward, almost flatly upon the abdomen, at or near the umbilicus; while now he draws the remaining finger over the abdomen in a straight line from the umbilicus to the anterior superior spine of the right ilium, he notes successively the character of the various structures as they come beneath and escape from the fingers passing over them. In doing this the pressure exerted must be deep enough to enable him to recognize distinctly, along the whole route traversed by the examining finger, the resistant surface of the posterior abdominal wall and of the pelvic brim. Pressure short of this must necessarily fail. Edebohls (Med. Record, Sept. 17, '98).

An easy way is to stand on the patient's right, using three right-hand fingers to feel with and three left-hand fingers placed upon these to press with. The fingers that are to do the feeling are pressed by means of the three others down under the border of the right rectus abdominis muscle at the level of the navel, and slowly drawn toward the examiner. The sole landmark, the ascending colon, is then felt to slip out from under the fingers, and by repeating the process toward the cæcum one soon comes to the end of the cæcum, and there begins to hunt for the appendix by rolling the cæcum from one side to the other of the finger-tips. The proximal end of the appendix is found near the distal extremity of the cæcum. The point about using no muscular effort in the hand that is to be used in feeling is as important in palpating appendices as it is in palpating ovaries and tubes. The very delicate sense of touch is preserved if the left hand is used for pushing upon the examining hand. Robert T. Morris (Med. Record, Sept. 17, '98).

ASPHYXIA.

Treatment.—A successful method for resuscitation from deep asphyxia is to introduce the index finger into the mouth and to move it to and fro over the epiglottis. The writer applied this method in the treatment of a patient, aged 38 years, for whom he was opening an abscess that had formed on the outside of the throat at a point corresponding to the location of the arytenoid cartilages. Deep narcosis ensued immediately after the incision had been made and almost simultaneously the heart and

respiration stopped. The older methods of resuscitation were first employed, but without effect. The method described was then resorted to, with the result that almost at once there was an effort to swallow, which was immediately followed by a return of respiration. The effect of this method irritates the glosso-pharyngeal and superior laryngeal nerves. It obviates the necessity of severe traction upon the tongue. W. Freudenthal (N. Y. Med. Jour., Dec. 10, '98).

CARCINOMA OF BREAST.

Varieties.—Among one hundred and fifty cases of carcinoma of the breast that have come under the writer's observation five or six have differed in many ways from ordinary carcinoma, and are considered as undoubtedly adenocarcinomas. They differ macroscopically from ordinary carcinoma of the breast in that they are considerably softer, contain a peculiar serous fluid, and are usually pedunculated. Microscopically, they are composed chiefly of large tubes, lined with epithelium many cells deep. The arrangement of these epithelial cells is quite characteristic; they seem to be so arranged as to form certain gland-like figures: tubes, columns, and minute papillæ. The greater part of the tumor seems to correspond to the adenomatous type, but here and there typical pure carcinomatous tissue may be found. Another interesting feature of this series of tumors is the nature of the glandular involvement, the enlargement of the glands being due chiefly to endothelial proliferation, and not to carcinomatous infiltration.

Treatment.—The method of operation now in vogue is even more radical than was practiced a year or two ago. At the present time a primary operation involves not only removal of the growth itself and all the fat and glandular tissue of the axilla, but also thorough exploration of not only the infraclavicular, but also the supraclavicular, region. The clavicular region is explored without removal of any portion of the clavicle, as it has been found that by elevating the shoulder there is sufficient space between the clavicle and first rib to allow of thorough dissection of these regions. The incision is made near and parallel to the posterior border of the sterno-cleido-mastoid muscle, and through this incision not only the supraclavicular and the infraclavicular, but also the subscapular, region is explored. The incision for removal of the breast itself has not been modified. Of late it has been the practice to remove a large amount of skin around the growth, and in all cases the wound is strewn immediately with grafts from the patient's thigh as large as one's hand or larger. The grafts are covered with silver foil and tissue-paper, and the dressing need not be disturbed for two or more weeks. As a routine practice, the minor, as well as the major, pectoral muscle is removed. W. S. Halsted (Annals of Surgery, Nov., '98).

CHANCROID.

Treatment.—From the writer's experience with antistreptococcic serum in venereal sores and their complications he has arrived at the following conclusions:—

1. While recognizing the great importance of early local antiseptic treatment of the chancroid, he believes that, if 5 cubic centimetres of the serum are injected subcutaneously into each inguinal region in cases in which inflammatory bubo is likely to develop, it will prove a good prophylactic measure, and assist in healing the chancroid.

2. If inflammatory bubo has already

developed, and the acute inflammatory symptoms have not been present more than forty-eight hours, 10 cubic centimetres injected into the inguinal region corresponding to the inflamed gland will cause resolution in the majority of cases.

3. If there is evidence of pus formation the serum may possibly limit the extension of the suppuration, but in this class of cases results have been anything but satisfactory.

4. The serum should always be injected into the area drained by the infected gland, preferably the right and left inguinal region. Good results are not obtained by injecting it into remote areas.

5. In phagedenic ulceration complicating venereal sores this serum would appear not only to neutralize the toxins in the blood, but also to bring about a healthy condition of the ulcer. James Moore (Brit. Med. Jour., Nov. 26, '98).

CREASOTE IN TUBERCULOSIS.

Creasote improves the resisting power of each cell, which it stimulates to a more perfect metabolism, and if to this favorable condition there are added an abundance of good food to supply these cells with nourishment, and plenty of fresh air to supply the blood with good red oxyhæmoglobin that may further assist their metabolic processes, the patient is placed under the best conditions for recovery. The creasote, it will be observed, does not exercise an antibacillary action, nor does it even diminish the virulence of the tubercle bacillus, but as a treatment for tuberculosis it is the most satisfactory agent that we know, since it succeeds in establishing a condition of health in the mucosa that will help nature to overcome the disease. Editorial (Jour. of the Amer. Med. Assoc., vol. xxvi, No. 18, '98).

CYCLICAL STOMATITIS.

The writer observed a case in which attacks of ulcerative stomatitis were coincident with menstruation, the soreness of the mouth usually manifesting itself from five to seven days before the menses appeared. The attacks reached their acme at about the close of menstruation, when the oral cavity was studded with myriads of small, dirty ulcers. Healing began at the cessation of the flow, the integrity of the mucous membrane not being restored until a week before the beginning of the next cycle. The patient's inability to masticate was of little moment, since her loss of appetite was complete at these times. There had been nothing about her alvine discharges to arouse suspicion of gastric or intestinal lesions.

Pelvic pain was but slight. There was constant falling off in weight and strength. Removal of the ovaries was advised and performed, since which time she has steadily gained in strength and health and the stomatitis has disappeared. B. S. Davis (Med. Times, vol. xxvi, No. 5, p. 141).

EGG-ALBUMIN IN SKIN DISEASES.

White of egg is useful in cases of much irritation of the skin and moderate exudation. It is applied as follows: The hands are thoroughly washed, an egg is opened, and the white is separated from the yelk, and is well stirred up with the finger in a little glass. The affected part is then smeared by means of the finger with a thin layer. It forms a delicate friable membrane, which covers the tissues beneath, and exerts on them a slight pressure. The itchiness is soon diminished or removed, and a pleasant coolness is felt. S. Lewith (Archiv für Dermatologie und Syphilis, B. 43, '98).

ENLARGED PROSTATE.

Treatment.—Considering all conditions and influences of the operative treatment of enlarged prostate, one is led to conclude:—

First, that in malignant disease any operative steps except palliative suprapubic drainage, even if based on an error of diagnosis, is a serious mistake.

Second, that in myomas, fibromas, and adenomas it is yet uncertain that good will follow castration; moreover that such conditions render enucleation by Alexander's method difficult and perhaps not feasible; hence, when interference resists catheterization and is not remedied by the permanent catheter, suprapubic section and removal of the projecting portion, if practicable, or the permanent fistula of McGuire, is the wisest course.

Third, in conditions including stone in the bladder, suppuration in the gland, and the suspicion of intravesical growths, exploration by the suprapubic method offers the best prospects of relief.

Fourth, as castration, distasteful even of suggestion, is less acceptable to men under sixty-five years than later, the commonest form of enlargement, the chronic parenchymatous, to which the operation of Alexander is especially appropriate, will be best treated by this method; it has almost no objection, aside from the seeming gravity of the steps. H. H. Grant (North Carolina Med. Jour., Dec. 5, '98).

EPILEPSY.

Treatment.—The writer has not met any case in which the bromide of strontium given in the doses and by the method to be mentioned has failed to diminish the number of the attacks. In many instances there has been no return for periods extending to two, three, and even four years. The continued use of bromide of strontium has not been followed by any bad consequences, and many of the patients have been taking 1 drachm daily without intermission for more than three years without any complaint. In this respect the strontium salt has an immense advantage over the potassium salt, which has frequently produced serious physical and mental changes when continued for a long period. Moreover, patients taking bromide of potassium frequently suffer from intense depression. This is not noticed at all in those using the bromide of strontium. The potassium, too, is poisonous in large doses; the strontium is not. The treatment is usually commenced by ordering $^1/_2$ drachm night and morning in some vegetable tonic infusion. Should that dose not control the attacks, it is rapidly increased until the quantity is found which will suit the individual case. The patient is directed to take 30 grains at once, in those cases where there is any warning of the attack and to repeat this every hour if required. By this means the attack has been frequently prevented. In order to get the full benefit of the medicine it is necessary to give it in large doses and to continue it for a long period. Each case requires to be studied on its own merits and any exciting predisposing cause lessened or removed. The question of diet is also one of much importance. The writer directs his patients to restrict themselves to fish and vegetables. When the attacks diminish in number, the more easily digested meats may be allowed twice or three times in the week. Antony Roche (Indian Med. Rec., Dec. 1, '98).

GASTRITIS, ATROPHIC.

Atrophic gastritis is habitually attended by a combination of three symp-

toms or a syndrome, which permits of its certain recognition. The symptoms of this condition come on in attacks at intervals of variable duration, usually every other day, more rarely every day. The patient is generally—never immediately after meals—disturbed in the night with the following symptoms: Nausea, a peculiar pain in the abdomen, and regurgitation of a watery fluid. The abdominal pain has a peculiar character; all the patients are unanimous in describing it as a feeling (as if something had twisted around in one's abdomen).

This painful sensation is localized in the upper part of the abdomen, usually close to the umbilicus, more rarely midway between the navel and the ensiform cartilage, and more rarely still in the cardiac region.

As a rule, nausea commences simultaneously with the pain, and, though never intense, is soon followed by regurgitation of a watery fluid. This liquid has, according to the patient's accounts, a rough, saltish taste. It has no special odor, its upper stratum is commonly frothy, and it is alkaline in reaction. Under the microscope scattered leucocytes are seen, and here and there flat and cylindrical epithelium.

This regurgitation, which occurs generally but once, and is followed by immediate relief, terminates the attack. The analysis of the stomach-contents of patients presenting these symptoms characteristically showed that there was practically a complete absence of gastric secretion. This syndrome may be considered pathognomonic of atrophic gastritis, or achylia gastrica.

This condition is met with between the ages of forty and sixty, and is not accompanied by any nervous manifestations, which fact distinguishes it from digestive disturbances associated with neurasthenic conditions.

Although this syndrome, when present, is pathognomonic of this disease, one must not in its absence infer the nonexistence of atrophic gastritis, or achylia gastrica. Reichmann (Berliner klinische Wochenschrift, Nov. 14, '98).

GONORRHŒA, RECTAL.

The treatment of gonorrhœa of the rectum does not differ materially from that given to any other part. The rectum has an absorbable mucous membrane, so that liquids can be taken up as readily by it as by the stomach, and it is dangerous to use bichloride or the different antiseptics. A better plan of treatment is to keep the patient at rest, and to use a double tube just within the sphincters for irrigation purposes, gradually inserting the tube slowly with an outlet for the flow of water to prevent washing or carrying the infection higher up in the intestinal tract. The bowel should be thoroughly irrigated several times a day with hot water. One can use the milder antiseptics, but there is always danger of absorption. Except for the first few days, while it is acute, there will be a red, swelled, and inflamed condition of the parts, and a burning pain with diarrhœa from the extra secretion. If the ulcer is above the sphincter-muscles, the patient may not complain of much pain, but if it is within the course of the sphincter-muscles or near the anus or anal canal, then the pain from the nerves is intense. Such patients will require occasionally an anæsthetic. The anal ulcer is to be treated by divulsing the sphincter muscles, efforts being made to overcome the spasm, and then by treating the ulcer locally the same as one would an ulcer elsewhere. J. B. Bacon (Amer. Gynec. and Obstet. Jour., Nov., '98).

GONORRHŒAL INFECTION, LATENCY OF.

The writer attended a woman in three confinements; the mother did well each time. The first two children were healthy and remained so. The third child showed signs of ophthalmia on the third day after labor and soon developed very severe symptoms. The right eye was affected some days after the left. The mother had not suffered from any leucorrhœa before the birth of the child and the father was at that time free from any symptoms. He had contracted gonorrhœa eight years before and to all appearances was soon quite cured. No other possible source of the ophthalmia could be found but latency in the father. Milne Murray (Lancet, Nov. 26, '98).

HÆMOPHILIA, OXYGEN INHALATION IN.

An interesting case of hæmophilia was observed occurring in a boy aged 13 years, with 6 brothers and 7 sisters. The brothers had all bled to death. The girls were alive and well; two were married and had borne children. A maternal uncle had died from hæmorrhage from the stomach and a maternal aunt had died at the age of 14 from bleeding. The patient gave a history of many swellings in his joints following slight injuries. He had bled from the gums and nose and the roof of the mouth. Slight injury to the right thigh had resulted in a large fluctuating swelling that was tender to the touch, while the overlying skin was red and thin. The patient was markedly anæmic. An incision was made through the skin, and a quantity of clot and some purulent fluid escaped. In spite of packing and pressure and internal administration of styptics the bleeding continued and the boy grew rapidly weaker. Bleeding from the nose and gums took place also. The stomach rejected everything. Death seemed inevitable. At this juncture inhalations of oxygen in large doses were resorted to. Within twenty-four hours the vomiting and bleeding stopped and the boy began to take milk freely. Recovery was eventually complete. Dodd (Lancet, Dec. 6, '98).

HOLOCAINE.

For the removal of foreign bodies from the cornea holocaine is an ideal anæsthetic. Two or three drops of the 1-per-cent. solution will give within twenty or thirty seconds an anæsthesia sufficiently profound to enable the foreign body to be removed without the slightest discomfort. Even in the case of bodies difficult to remove, and therefore requiring prolonged manipulation, it is scarcely ever necessary to repeat the instillation.

Holocaine is undoubtedly a most valuable agent for the production of anæsthesia of the eye. It produces an anæsthesia at least as profound as that of cocaine, with the additional advantages of beginning more rapidly and lasting much longer. Its peculiar value lies in the fact that, apart from the anæsthesia, it seems to have no further effect on the eye whatever. It seems to act simply by paralysis of the sensory-nerve endings and has no other action on the eye, leaving the pupil, accommodation, and tension quite unaffected.

A further point in favor of holocaine is its antiseptic properties, which, according to Heinz, are so powerful that boiling the solution to sterilize it is quite unnecessary. James Hinshelwood (Ophthalmic Review, July, '98).

ICE-BAGS IN THE MANAGEMENT OF PYREXIA.

In what form can cold be used in order to give a method easy of application, cer-

tain in its results, and so simple that it can meet with no objections from the ignorant? All of these requirements are met by the use of ice-bags applied over the arteries at their most superficial points and continued in place until the temperature has become normal, then removed, excepting for those requisite to keep the temperature near the normal point.

The usual way in moderate degrees of fever—say, 102° F.—is to use four bags, one in each axilla and one in each popliteal space. If the fever is still higher, these are reinforced by one to the nape of the neck and one at each wrist, and in exceptional cases it becomes necessary to place others at the ankles. In the course of an hour, on an average, the fever will begin a gradual decline and continue to fall, until, in many cases, if all the bags are continued in force it becomes subnormal. As soon as any increase is noticeable they should be renewed one at a time until the fever is under perfect control. L. B. Lockard (N. Y. Med. Jour., Dec. 10, '98).

LOCOMOTOR ATAXIA.

Symptoms.—Among the disturbances of sensibility in locomotor ataxia, hyperæsthesia of the trunk seems to appear regularly and usually early. This consists for a long time only in an oversensitiveness to slight touches, while in opposition thereto there is usually observed in the beginning on the legs a diminution of the pain and posture senses. This latter appears to precede somewhat in development the trunk-hyperæsthesia, which in the beginning corresponds usually to the area of distribution of the middle thoracic nerves. Its subsequent development ensues symmetrically in horizontally-encircling zones above and below, and spreads out over the arms in a characteristic manner. There occurs implication of the area of distribution of the lumbar and sacral nerves, in which, between hyperæsthetic, there are found normal zones. These may also be demonstrated for a long time in the lower thoracic area. The distribution of this tactile anæsthesia is characteristic; it corresponds not to the area of distribution of the peripheral nerves, but to that of the spinal roots or their intramedullary fibres, in which respect it simulates disturbances of sensibility following lesions of the spinal cord and the posterior roots. There may also occur various sorts of other anæsthesias in consequence of peripheral nerve-disease. On the periphery of hyperæsthetic and between hyperæsthetic zones there occurs usually a marked hyperalgesia, especially for cold. The reflex irritability of the skin is here very much diminished or totally abolished. Symptoms of sensory irritation are a very frequent, though not constant, accompaniment of the anæsthesia. A marked ulnar-pressure analgesia with other disturbances of sensation in the ulnar region appears to be the rule in tabes dorsalis. Lahr (Archiv für Psych., vol. xxvii, Pt. 3).

Pathology.—The newer pathology of locomotor ataxia is summed up as follows: There is a lowered vitality of the nervous apparatus, inherited or acquired, resulting in defective nutrition of the neurons. The neurons, whose function subserves the most highly specialized and most recently acquired sense, are the first to exhibit signs of malnutrition in parts farthest removed from their affected nutrition-centers in the posterior spinal ganglia, viz.: the cutaneous and spinal-cord arborizations, respectively. Mettler (N. Y. Med. Jour., Oct. 15, '98).

OBESITY, GOUT, AND DIABETES.

There can be no doubt that obesity, gout, and diabetes are closely related. Any two or all three of them may be present in the same person. The diseases are hereditary, and are especially prone to descend to those children that most closely resemble their parents in external features. In obesity there is certainly an hereditary and congenital predisposition. Certain individuals in whose family obesity is hereditary, become obese despite a moderate diet and an active life. There must be some abnormity of the protoplasm of the cells. Uric acid is an important factor in the etiology of gout. In view of the fact that uric acid is a derivative of the nuclei of the cells, it may be inferred that in gout also the cell-protoplasm is in some way at fault. In diabetes there is likewise some defect in the cellular elements of the body in the protoplasm. In the diabetic, glycogen is found in organs in which normally it does not exist, and from this may be inferred a disturbance of the cellular protoplasm. In those cases of diabetes in which the pancreas seems to be responsible, the defective activity of this organ gives rise to a modification of the cell-protoplasm of the same nature as that which develops under the hereditary impulse. All three affections should be classed as general diseases of protoplasm, hereditarily transmissible. W. Ebstein (Deutsche med. Woch., Nov. 3, '98).

ORTHOFORM FOR SORE NIPPLES.

Powder of orthoform may be applied to fissured nipples with the greatest relief to the patient. In 29 cases treated the cure was complete at the end of five days, while in no case was the mother obliged to renounce nursing. As orthoform possesses no toxic properties, it is harmless to both mother and child, and its advantages in treatment are obvious. The dressing is applied twice a day. Maygrier (Medical Press and Circular, Nov. 23, '98).

PURULENT PERICARDITIS TREATED BY LAVAGE.

The case of a girl, aged 19, who was admitted with purulent pericarditis following influenza ten days before is of interest. On admission the girl was almost moribund; temperature, 104°; extreme dyspnœa, delirium, threatened suffocation, etc. There was bulging of the præcordial region, absence of apex-beat, and dullness extending from the left axillary line to the midclavicular line on the right, from the second left intercostal space above down to the seventh below. An exploratory puncture was made in the seventh space, with negative results, another in the fourth space showed the presence of pus. A free incision was at once (without any anæsthetic) made in this space, and as no pus came from the pleural cavity the pericardium was opened, and more than a litre of thick flocculent pus let out. The cavity was well washed with warm sterilized boric solution, drainage maintained, and the dressings applied. The after-history of this case was uneventful, and the patient left the hospital in forty-five days cured. She was seen two months later, and had remained well. Chimenti (Annal. dell' Accad. Medico-Chir. di Perugia, vol. x, p. 1).

SALICYLATE OF SODIUM IN RHEUMATISM, RECTAL ADMINISTRATION OF.

Rectal administration of salicylate of sodium in rheumatism possesses the advantage of rapidly relieving the pain. Heart complications and relapses are avoided, and the digestion is not dis-

turbed. From 2 to 3 drachms of sodium salicylate are ordered daily, in two clysters, to which a few drops of laudanum are added. The rectum is previously irrigated. The drug is absorbed in from six to eight hours. Every second day the dose of salicylate is diminished by 15 grains until the daily dose is $1\,^3/_4$ drachms, when but one clyster is given. The method gives good results, not only in acute rheumatism, but also in the subacute form, in gonorrhœal arthritis, in rheumatic iritis, and in pleuritis *à frigore*. Harlet (Klin. therap. Woch., No. 32, '98).

SALINE SOLUTIONS IN INFANTILE BRONCHO-PNEUMONIA.

Eleven cases of infantile broncho-pneumonia successfully treated by hæmatocatharsis, in all of which a 7-per-cent. saline solution (at 98.5° F.) was employed. The writer injected daily under the skin of the abdomen or in the thigh under strict antisepsis 200 cubic centimetres at one time in children 3 years and over. Under that age the injections were 60 cubic centimetres three times a day. The blood-pressure is raised, diuresis is increased, the whole organism, notably the nervous system, is powerfully stimulated; oxidation is increased, and symptoms are improved, where usual means fail. The contra-indications are weak heart, excessive obesity, and pulmonary tuberculosis. The injections should be given as early as possible in the case. C. P. Lemaire (Sem. Méd., No. 50, Oct. 5, '98).

SCARLET FEVER.

Treatment.—The treatment of scarlet fever must be symptomatic. In mild cases it should be the same as that of other fevers. The patient should be placed in a well-ventilated room, with a light diet and careful nursing. The body should be sponged with tepid water, simple salines given internally, and the sore throat relieved by sucking ice. If the tonsils are much swelled, and covered with secretions, the latter should be removed and disinfectants or astringents applied. Perchloride of iron, chlorinated soda, and dilute hydrochloric acid may be used, and similar remedies may be also used to syringe the nose when that is involved. Hot fomentations or linseed poultices may be used when there is much swelling or pain in the neck and about the angles of the jaw. Abscesses should be opened early. If otorrhœa is present, the meatus may be syringed with warm water, a solution of boric acid (1 in 20), or dilute peroxide of hydrogen. In severe typhoid forms, with quick, feeble pulse, stimulants — as ammonia and brandy—are called for. Where there is high fever, with delirium and restlessness, cold affusions to the head and body often give relief. When necessary the patient should be quieted by a solution of the five bromides. Antipyretics should be used with care. As the chief danger lies in the renal complications, care should be taken that the patient is not exposed to the cold or draughts as long as desquamation is going on. Potter (Annals of Gynæc. and Pediatry, Nov., '98).

SHOULDER-PRESENTATION.

Treatment.—In the first stage, the arm of the fœtus being protruded, it is doubled at the elbow, the fingers resting on the shoulder, forming, as it were, the point of a wedge which is now pushed back again into the uterus, in the interval of the pains, the upward movement being continued by the operator's bent forefinger pressed against the shoulder. In the second stage, the accoucheur's middle finger is extended and by prefer-

ence is placed in the mouth of the fœtus or on some firm bony point of the head. Now, with the assistance of the operator's other hand external to the mother's abdomen, the head is drawn into a better position, where, should the pains still be strong, it may be left to nature, or instruments applied if considered advisable. Turner (Lancet, Dec. 6, '98).

SPLEEN, ENLARGEMENTS OF.

Excluding enlargements of the spleen due to malaria, syphilis, leukæmia, rachitis, etc., the primary enlargements of the spleen are divided into two classes: 1. Those that give rise to no symptoms except of a mechanical nature. These are more common than is generally supposed. 2. Those that are associated with anæmia, for which the term "splenic anæmia" is to be preferred. The special features of these are their chronic course, the bronzed skin, the chlorotic type of blood, and the hæmorrhages. William Osler (Phila. Med. Jour., Dec. 17, '98).

STERILITY, REMEDIABLE FORMS OF.

Some of the causes of sterility are slight, and seem out of all proportion to the effect produced; and yet their removal, easily and readily accomplished, is followed by a cure of the condition. Imperforate hymen, sensitive myrtiform caruncles, catarrhal endocervicitis, and malposition of the uterus with chronic inflammation involving the periuterine structures are causes of sterility. Syphilis is frequently the cause of relative sterility. Any and every deviation from the normal condition of the sexual organism in women, and in men as well, may determine sterility. Segur (Amer. Gyn. and Obstet. Jour., Oct., '98).

STRANGULATED HERNIA, REDUCTION OF.

Applications of collodion are effective in reducing strangulated hernia, and will often succeed in cases in which ether profusely applied to the tumor is without effect. A thin layer of wadding as large as the hand is dipped in collodion and applied to the hernia,—the parts being previously shaved; the wadding is kept saturated with the liquid. The uniform compression made by the collodion, united with the refrigerating action of the ether which it contains, will easily induce reduction in almost every instance. Schliep (Medical Times, Nov., '98).

TETANOID SPASMS IN DILATATION OF STOMACH.

In the treatment of tetany or tetanoid spasms, associated with dilatation of the stomach, the possibilities of surgical intervention should not be ignored, especially as the prognosis attending other modes of treatment is so high (75 per cent.). From the writer's experience in the operative treatment of this condition he is prone to take a more hopeful view. In three instances he performed gastroplasty upon patients in whom gastric dilatation was attended with tetanoid symptoms, which in one case were so pronounced and so wide-spread as to suggest strychnine poisoning. The symptoms were entirely relieved by the operation in each case. The immediate cause of tetany is probably a reflex effect produced by painful contraction of the pylorus, supplemented by the absorption of some poison from the dilated stomach, which increases the excitability of the nervous system. A. W. Mayo Robson (Lancet, Nov. 26, '98).

UNGUENTIN.

Some of the advantages of unguentin as an ideal dressing in the treatment of

scalds and burns can be summarized as follows: (*a*) it is easy to apply; (*b*) affords great relief to patient, acting as a sedative, cooling and non-irritating; (*c*) it does not dry quickly, and consequently the dressings do not have to be changed often; (*d*) it is a rapid cicatrizant, and when used early prevents granulation-tissue; (*e*) it is non-toxic; (*f*) patients recover more quickly under the unguentin treatment than any other; (*g*) it prevents the necessity of skin-grafting in a great many cases by hastening the reparative process; (*h*) it is much more convenient, neat, and practicable. N. David Chapman (International Jour. Surg., Dec., '98).

VAGINAL EXAMINATIONS AND VAGINAL DOUCHES IN NORMAL LABOR.

The common custom of making frequent vaginal examinations during the whole course of labor is unscientific and unsafe, and it should be the aim of the conscientious obstetrician so to familiarize himself with all extravaginal methods of diagnosis as to reduce the necessity for vaginal examinations to a minimum.

All intravaginal manipulations are especially objectionable after delivery.

When the vaginal secretions are normal antepartum douches are unnecessary and harmful.

In normal cases the single post-partum douche is unnecessary.

The routine use of douches during the normal puerperium is contra-indicated. These conclusions apply only to normal cases, and in no way forbid the most searching examinations or thorough disinfection when indicated. Should a douche be necessary, then only a glass tube perforated at the sides should be used. The solution should be as hot as can comfortably be borne, but should not be too hot. The tube should be managed without introducing the fingers. George P. Shears (Med. Rec., p. 405, Sept. 17, '98).

VISCERAL TUBERCULOSIS.

Treatment. — Excellent results have been obtained in certain cases of visceral tuberculosis by the injection of large quantities of olive-oil into the subcutaneous tissue. The writer regards as absolutely essential to the success of this treatment that it shall be done sufficiently slowly and that absolute asepsis shall be maintained. Guaiacolated olive-oil of the strength of 1 grain of guaiacol to 1000 cubic centimetres of oil is used. After having been sterilized by heat, it is then placed in a wash-bottle which has been sterilized. This wash-bottle is arranged exactly in the same manner as an ordinary atomizer, with a hand-ball air-pump attached to the tube running into the surface of the fluid, and trocar attached to a rubber tube leading off from the inside tube, which is sunk deeply into the oil. By this means the oil is forced out into the subcutaneous tissues, and to prevent the air from carrying micro-organisms into the oil it is filtered in its course through the tube by passing through some sterilized cotton, which is placed in the dilated portion of the canal. Under these circumstances quantities as large as from 2 to 4 ounces of guaiacolated oil may be given beneath the skin and repeated every two days. Letulle (La Presse Méd., Sept. 7, '98).

VOMITING, PERSISTENT.

The proper interval of feeding in cases of persistent vomiting is every two hours; one hour or one hour and a half is too short a time, while three hours is too long. The mixture with which the writer has had the greatest success con-

sists of 2 ounces of milk with $^1/_2$ ounce of lime-water and 1 drachm of whisky. This food is given every two hours, whether the patient retains it or not. In this way the greatest amount of rest possible is obtained for the stomach, with the least amount of effort. A quarter of an hour following this food is given some such mixture as a fractional dose of morphine with a few drops of dilute sulphuric acid, administered in a small amount of curacoa. William Pepper (Memphis Lancet, Dec., '98).

WHOOPING-COUGH.

Treatment.—In nearly every case of whooping-cough examined the writer found that the patients either had pains in their ears, as evidenced by the fact that they resented their mothers' washing or even touching these organs, or else that there existed a semifluid discharge, which in some cases had been present for some time.

The course of treatment decided upon was as follows: The ears were syringed out night and morning with lukewarm boric lotion or water, and a paint—consisting of 23 grains of hydrochlorate of cocaine, 4 drachms of glycerin, 20 minims of solution of perchloride of mercury, and water to 1 ounce—was applied to the meatus and tympanum. The result of this treatment was that in every case the patient was benefited and the whooping-cough was cured. In many cases, in addition to the essential symptoms of whooping-cough, there were present bronchitis, pharyngitis, or laryngitis. These did not yield to the treatment above described, and in some cases they persisted for several days after the "whoop" had disappeared. G. Arbour Stephens (Lancet, Dec. 3, '98).

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following book:—

Onzième Congrès de Chirurgie, Paris, 1897. Felix Alcan, Editeur, 108, Boul. Saint-Germain, Paris, France.

Monographs Received.

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The Inspection of the Œsophagus and the Cardia. By Max Einhorn, M.D., New York, 1898.——Movable Kidney and its Treatment. By Max Einhorn, M.D., New York City, 1898.——The Diet of Dyspeptics. By Max Einhorn, M.D., New York, 1898.——Turbinotomy. Method of Operating. By R. P. Lincoln, M.D., New York, 1897.——An Additional Case of Double Congenital Microphthalmos. By Cassius D. Westcott, M.D., Chicago, 1898.——What Should the General Practitioner Know about the Eye? By Cassius D. Wescott, M.D., Chicago, 1898.——On the Significance of Jaundice in Typhoid Fever, and on the Hepatic Complications without Jaundice. By J. M. DaCosta, M.D., LL.D., Philadelphia, 1898.——Horse-radish. By M. G. Kains, U. S. Department of Agriculture, 1898.——

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Cyclopædia of the Year's Literature.

RHEUMATISM.

Symptoms. — J. Steinberg[1] records three cases of secondary syphilis presenting articular manifestations. He concludes that there exists a syphilitic pseudorheumatism which has only been observed in the secondary stage. This pseudorheumatism differs from ordinary rheumatism by very marked characteristics: its appearance in subjects free from any hereditary or personal arthritic taint; the habitual co-existence of sec-

[1] Annales de Dermat. et de Syphil., Oct., '98.

ondary manifestations; lesser intensity of the inflammatory phenomena; greater fixity of the articular determination; and nocturnal exacerbations of painful symptoms. It yields rapidly to specific treatment, but the pains are often assuaged by local applications of salicylate of methyl.

Etiology and Pathology.—Rabl[2] does not believe that the poison of rheumatism enters the system through solution of continuity in the mucous membranes. He argues that rheumatic pains and fevers are due to interference with the secretory activity of the skin.

Reinhard[3] is strongly of the opinion that rheumatism is an infectious disease, secondary to some injury to the mucous membranes; particularly those of the mouth, which permits the entrance of the infectious agent. The prophylactic treatment consists, therefore, in careful cleansing of the mouth at frequent intervals.

From chemical experiments Mordhorst[4] comes to the following conclusions:—

The phenomena of rheumatism rest upon the accumulation of urate spherules in the connective tissue and cartilage.

The alkalescence of juices of connective tissue is due to sodium carbonate (not to the bicarbonate or phosphate).

Acids favor in the extreme the precipitation of the spherules, while alkalies prevent this precipitation.

Sodium salicylate favors the transformation of urate spherules into urate needles. This explains why this salt cuts short the inflammatory process, but predisposes to relapse, which is due to the needles' persistence in the tissues.

Urate spherules are naturally subject to oxidation; urate needles are not.

Sodium carbonate and bicarbonate do not directly hasten solution of needles, but probably favor oxidation of spherules. These salts are best given in mineral waters free from lime and containing sodium chloride and carbonic acid.

Prognosis.—Osler[5] suggests that in the prognosis of any case of rheumatic heart disease the two influencing factors should be the presence of wide-spread pericardial adhesions and the persistent recurrence of rheumatic manifestations.

Treatment.—Catrin[6] thinks that the usefulness of salicylate of methyl in relieving the pain of acute articular rheumatism is incontestable. The doses commonly employed are as much as 1 ounce a day. In regard to the local use of the salicylate of methyl, bands of tarlatan soaked in salicylate of methyl may be wrapped around the joint and covered by an impermeable dressing, with great advantage to the patient.

Mosher[7] initiates treatment with large doses of the salicylate, and continues for from three to five days, till the good effects against the rheumatic condition begin to be felt. Then daily doses of salophen to the extent of 30 to 45 grains are given. This drug is not absorbed in the stomach. On reaching the intestine it is split up into salicylic acid and acetyl-paramidophenol and is always well borne. This is kept up as long as treatment for the condition is needed.

Klimenko[8] has employed salophen in 40 cases, giving 15 grains six times daily. It has a good effect in acute and chronic articular and muscular rheumatism.

According to F. Falk,[9] piperazin

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[2] Münch. med. Woch., Sept. 13. '98.
[3] *Ibid.*
[4] Centralb. f. innere Med., No. 19, '98.
[5] Brit. Med. Jour., Oct. 15, '98.
[6] Jour. de Méd. de Paris, June 11, '98.
[7] La Semaine Med., No. 46, '98.
[8] Therap. Monats., July, '98.
[9] Jour. of Pract. Med., Apr., '98.

(Bayer) is an ideal therapeutic agent in chronic rheumatism; it controls the pain without the use of opiates, and a general improvement takes place at once.

C. W. Canan[10] states that for the past seven years he has used tongalin with particularly good results in rheumatism. In very severe cases of inflammatory rheumatism he begins by giving a teaspoonful every hour, in a wineglassful of water as hot as the patient can bear it. After each dose more hot water, as much as the patient can take, is given. If the stomach will not tolerate tongalin, he has the painful parts sponged with alcohol or soda-water, preferably the latter, and then rubbed with tongalin. Heat is then applied by means of a hot-water bag or by some other convenient method.

J. Lee Beck[11] states that in acute articular rheumatism electricity in any form is of doubtful value.

Subacute articular rheumatism is far more favorably affected by electrical treatment than the acute form, but even in these cases the remedy acts with a degree of uncertainty and is often very discouraging. There is only one satisfactory method of electrical treatment in these cases, and that is the method of general faradization with the descending current. Purely local applications, while not altogether useless, are by no means so efficient as the general method. All three forms of electricity—galvanic, faradic, and static—are of value in the treatment of muscular rheumatism. In muscular rheumatism of the neuralgic type and with considerable tenderness to pressure, especially slight pressure, the galvanic, or the faradic current of high tension, is recommended, preferably the galvanic. In chronic cases the method to be adopted is the simple one of static insulation and submitting the patient to the effects of the roller electrode over the effected parts. In consideration of the treatment of the chronic articular forms of rheumatism, the application of the faradic brush should be mentioned. A vigorous current, sufficient to produce intense redness of the skin, is sometimes followed by sleep.

The value of the electric bath in chronic rheumatism is strongly supported by Chauvet.[12] He either uses pure Royal water or adds 2-per-cent. lithium chloride to it. The current is produced by a battery of 50 Leclanché cells, and is employed at an intensity of from 15 to 30 milliampères. The electrodes consist of charcoal covered with flannel, and each sitting lasts from ten to thirty minutes. The treatment is not indicated where Heberden's nodes are found to exist. In any case, however, it does no harm, and during its continuance there is an absence of the acute exacerbations which are so common in rheumatoid arthritis.

A. Bier[13] says that some years ago he used the hot-air treatment for chronic rheumatism. It undoubtedly lessons in a striking manner both the pain and stiffness in the joint. Almost the only effect produced by the hot air is the active hyperæmia. Better results can be obtained, however, by passive hyperæmia. The leg should be bandaged from the toes up to the affected knee, and then an elastic bandage should be applied above the knee over another bandage. Each case must be observed as to how far the passive hyperæmia can be borne with safety. It must not cause pain, and if pain is previously present it should be relieved by it. If the joint is

[10] St. Louis Med. and Surg. Jour.; N. Y. Med. Jour., Jan. 15, '98.

[11] Med. World, May, '98.

[12] Arch. d'Elect. Méd., Apr. 15, '98.

[13] Münch. med. Woch., Aug. 2, '98.

painful the method may be used continuously, but the position of the bandage must be changed every twelve hours. In other cases it may be employed either during the day or night. The diseased joint itself is not bandaged.

Gustav Singer[14] details the treatment of acute articular rheumatism by intravenous injections of sublimate, as follows: The arm is left hanging over the edge of the bed, in order to bring the veins into prominence, or a compress above the elbow is employed for this purpose. The skin in the region of the elbow is then disinfected first by energetic rubbing with soft soap and warm water, next with a $^1/_{10}$-per-cent. sublimate solution, and lastly with ether and alcohol. A sterilized syringe provided with an asbestos piston is filled with the solution and inserted into the lumen of the vein in the direction of the blood-current and parallel to its course. As soon as the color of the solution in the syringe has indicated that the needle has entered the vein (blood's entering reddens the solution), the compress is removed and the injection is slowly made. The point of insertion is covered with the finger, the needle removed, and the opening closed with iodoform-gauze and an appropriate bandage. The solution employed is: corrosive mercuric chloride, 1 or 2; sodium chloride, 1 or 2; distilled water, 10. The dose of sublimate is from $^1/_6$ to $^1/_3$ grain. The injection can be made alternately in each arm. Six to ten injections in the course of treatment, at most, being necessary, it is well to begin near the wrist, and later inject nearer the elbow. If the weaker solution is employed, daily injections are given; if the stronger, then once in two days is sufficient. The mouth and teeth must be carefully looked after and cleansed. For this purpose potassium chlorate is used as a mouth-wash. The indications for this method are: Acute articular rheumatism of infectious initial processes (erysipelas, phlegmon, puerperal affections) or peculiar history (chills, recurring endocarditis, frequent exacerbation, protracted subacute course, metastases) which point toward a pyæmic character. In acute disease, when the salicylates are forbidden, or when the inflammation is localized in single joints, this method is recommended. The contra-indications are to be found in very weak individuals, severe renal degeneration, and by onset of severe symptoms of poisoning.

John O'Conor[15] reports two cases of acute articular rheumatism that were subjected to surgical treatment, consisting in opening the joint by one or more incisions, thorough irrigation of the wound, and packing the wounds with mercuric-chloride gauze. In one case the ankle, elbow, and knee were subjected to this treatment at one operation, and in another both wrist-joints and the left knee. The results obtained in each were excellent. In those cases that do not respond to internal medication, prompt resort to surgical procedure is thoroughly justifiable.

Rheumatism in Children.

Symptoms.—J. F. H. Broadbent[16] remarks that although the articular manifestations of rheumatism in childhood and early adolescence are, as a rule, slight and may be confined to fugitive pains or stiffness in the joints or limbs, with little or no constitutional disturbance, the rheumatic poison may all the time be attacking the heart and setting up endo-

[14] Centralb. f. d. Gesammte Therap., H. 1, S. 1, '98.

[15] Glasgow Med. Jour., Sept., '98.

[16] Edinburgh Med. Jour., vol. xlv, No. 515, p. 473.

carditis, pericarditis, or myocarditis in conjunction with one or both of the former. Owing to the insidious nature of the inflammatory process, irreparable damage may be done before the severity of the cardiac symptoms compels the patient to seek medical advice or take to his bed.

In many cases the early diagnosis of endocarditis often presents considerable difficulty. When present, it is exceptional for the patient to escape pericarditis. In watching the progress of a case of pericarditis, one of the most striking features to be noted is the rapid increase in the area of cardiac dullness which takes place even though the patient is kept in bed and carefully nursed and treated. This rapid increase is due, as a rule, not to pericardial effusion, but to dilatation of the heart. In severe cases the cardiac dilatation may rapidly become extreme and the patient succumb within a few days of the first appearance of the pericardial rub, from a syncopal attack, which is sometimes associated with severe vomiting. More commonly, especially in a second attack of pericarditis, the inflammatory process seems to assume a subacute form. Eventually, within from six weeks' to three months' time, one of three things may happen:—

1. The area of cardiac dullness may decrease till it is nearly normal in extent.

2. The area of cardiac dullness may remain permanently enlarged, though the patient has become convalescent, and, though the patient recovers, the heart will be permanently crippled.

3. The area of cardiac dullness may still further increase, the liver becoming enlarged and dropsy set in, and the patient die with all the symptoms of right-ventricle failure. There are certain danger-signals for which one should always be on the lookout in children or young adolescents when a suspicion of rheumatism is aroused. These are rheumatic nodules: small fibrous growths commonly about the size of a split pea, but sometimes as large as an almond, or even larger. They are found in the neighborhood of joints, over the olecranon or condyles of the humerus, on the margins of the patella, over the malleoli, on the finger-joints, on the sheaths of tendons; sometimes on the scalp or vertebral column, and are attached by their bone to the fascia, or sheaths of tendons, or to some portion of underlying fibrous tissue. The skin over them is freely movable, and they are best seen by flexing the joint over which they are situated, when the skin is rendered tense. In themselves they are painless; when present in force, danger to the heart is imminent, and repeated attacks of cardiac inflammation are to be apprehended.

In the rheumatic heart disease of childhood D. B. Lees[17] regards as the first indication of endocarditis the appearance of a systolic murmur at the apex, the second sound being still audible. Often this latter becomes doubled after a time, the doubling being heard only in the apex-region, and being, therefore, different from the duplicated pulmonary sound of advanced mitral stenosis. The first of these two sounds is the normal second sound, caused by the sudden extra strain thrown on the already-closed valves and on the aorta and pulmonary artery by the diastolic expansion of the ventricles. The second of the two sounds is caused by the tension of the inflamed and stiffened mitral flaps, produced by the same rapid expansion of the ventricle. The first element of the double sound always remains a sharp,

[17] Brit. Med. Jour., Oct. 15, '98.

short sound as long as it is audible at all. The second element may be substituted by a short, blowing murmur, an early diastolic, or middiastolic murmur. At a later stage there may be at the apex a presystolic murmur, followed by a longer and louder systolic. This presystolic murmur is blowing in character and usually short and is common in children after a rheumatic attack. It is usually accompanied by evidences of great dilatation of the heart. A presystolic murmur may end sharply with the systole, or it may be prolonged backward to occupy the greater part of the diastole. It has rarely the loud rough churning character of the presystolic murmur of marked mitral stenosis. The narrowing of the orifice is of slow process. Care should be taken not to consider a soft, double sound at the base an evidence of commencing aortic disease. It is often the first indication of pericarditis.

Diagnosis.—An editorial[18] says that in acute rheumatism of early life arthritis is at its minimum; endocarditis, pericarditis, and chorea at their maximum; pleurisy, tonsillitis, the vasomotor and hæmorrhagic phenomena, and the erythemata and purpura are more common, tending to decline as puberty is passed. There is also a special tendency in children for the various phases of the affliction to arise independently and apart from one another. This is an important point, which Cheadle was one of the first to point out. Endocarditis or pericarditis may arise in a rheumatic child not only without any accompanying joint affection, but in rare instances without any recognized rheumatic phenomena to give warning of the nature of the true complaint.

As a rule, however, a slight stiffness of the joints, chorea, a crop of nodules, or erythema give some slight indication of a rheumatic condition.

The existence of a family predisposition is of great significance. The occurrence of the conditions mentioned above, and even the presence of the subcutaneous nodules alone, which are pathognomonic of rheumatism, are sufficient for diagnosis.

Etiology.—Fisher[19] thinks that rheumatic disease of the heart in children should be considered a toxæmia of which pericarditis and endocarditis are pathological manifestations, and that poisoning of the heart-muscle could be present without these.

Prognosis.—Steven[20] remarks that the immediate prognosis in rheumatic heart disease in children is good, the remote prognosis always grave, death occurring in youth or early adult life.

Baginsky[21] considers pericarditis much more dangerous than endocarditis in the rheumatism of children. The patients often die after two or three attacks at the age of puberty.

D. B. Lees[22] believes that acute rheumatism is one of the chief factors in the mortality among children, and that it acts through the influence of the rheumatic poison upon the heart. Endocarditis is not often the cause of death, as the lesions are usually slight. Pericarditis is a much more striking post-mortem condition in the rheumatic heart disease of childhood, and is a much more common cause of death. Pericardial effusion of any extent is uncommon in these cases. Pericarditis causes death through its influence upon the cardiac muscular wall. Post-mortem

[18] Archives of Pediatrics, Jan., '98.
[19] Brit. Med. Jour., Oct. 15, '98.
[20] *Ibid.*
[21] *Ibid.*
[22] *Ibid.*

records have shown disease of the myocardium in a large percentage of cases. In some the muscle-wall is soft and pale, in others fatty, in still others, tough and fibroid. Cardiac dilatation is more or less present in rheumatic attacks in which there is no proof of either pericarditis or endocarditis. Dilatation seems in these cases due to the toxic action of the rheumatic poison on the heart-muscle. Such dilatation may remain when the attack is over, gradually producing symptoms of increasing heart-failure, and death after a few years.

D. B. Lees[23] argues that the prognosis in rheumatic heart disease in children is not based upon a consideration of the valvular lesion, except in rare cases of advanced mitral stenosis, but chiefly upon the amount of cardiac dilatation, the presence or absence of pericarditis, and the evidence of a fresh rheumatic toxæmia.

Treatment.—In the rheumatic heart disease in children A. Earnest Samson[24] says that if there be no rheumatic febrile disturbance and if the heart-tissues are not undergoing active inflammatory changes, digitalis properly administered acts well. If there be waves of active inflammatory action, circumstances not always to be readily discovered, digitalis fails. Digitalis and its congeners, if they are given at all when the temperature is high, should be given with great care, for otherwise the physician may be induced by the apparent inaction of the remedy to push its administration too far during the fever, with the consequence of producing too great depression of the pulse during defervescence.

If two—or perhaps three—days have passed without improvement, the drug should be omitted and the patient advised to take perfect rest in bed. Of course, the withholding of the digitalis should be earlier if signs of intolerance arise. Now small blisters may be applied after the manner recommended by Dr. Canton: one of the size of half a crown near the heart's apex, and when the consequent irritation is subsiding a second blister of similar size close to and others following. Or these small blisters may be placed over the costal spaces. Although these may tend to relieve subjective symptoms, they have no decided therapeutic effect. There has been much more decided evidence of amendment from the topical application of the ice-bag in pericarditis. An ice-bag suspended from a cradle so that it rests lightly over the heart-region, a thin layer of flannel intervening. The ice-bag may be applied for periods of half an hour and removed for like periods. A temporary dilatation of the heart may under such treatment subside in two or three days. A small hypodermic injection of morphine acetate or morphine hydrochlorate, from $^1/_{10}$ to $^1/_4$ grain, is a great aid to the calming and comforting of the patient. Any sign of rheumatic storm in the heart should be treated by placing the patient at rest in bed.

A warning note should be uttered against the indiscriminate use by the non-medical public of methods of muscular exercise. In many cases of organic heart disease in their truly chronic stages these methods of increasing the physiological activity of the heart-muscle are of very high value, but there is much danger in the case of the rheumatic heart even though the disease may seem to be chronic. If there be the rheumatically swelled heart—a condition of which the patient himself may be unconscious—the use of muscular exercise should be

[23] Brit. Med. Jour., Oct. 15, '98.

[24] Lancet, Dec. 10, '98.

prohibited. To advise these would be equivalent to directing a patient with inflamed joints to run. After a period of such absolute rest exercise should be commenced gradually.

In the absorption of the effusions in and about the heart in the seemingly chronic stages of rheumatism, salicin and the salicylates have no directly favorable influence. Indirectly ministering, as they undoubtedly do, to comfort and well-being in the acute stages and when the joints are painful, they are inert as regards any heart-inflammation. In the more chronic stages, alkalies may be prescribed, as they soften membranes, increase osmosis, and thus facilitate the work of the lymphatics. Another plan of treatment which is of great value is the administration of small doses, $^1/_2$ grain of calomel three times a day for periods of three or four days together.

After the systematic use of the ice-bag has been omitted it seems to be useful to apply iodine in some form over the integument of the præcordia. Inunction of an ointment of iodide of ammonium is much to be preferred to painting the surface with liniment or tincture of iodine. A drachm of iodide of ammonium is to be intimately mixed with an ounce of benzoated lard. This ointment is rubbed into the skin over the heart-region by means of a piece of flannel or a pledget of cotton-wool for two or three minutes night and morning. After the rubbing a piece of cotton-wool, flannel, or light tissue is to be kept over the surface.

TYPHOID FEVER.

Symptoms.—Rocaz[25] remarks that the onset of enteric fever in very young children is frequently sudden. The intestinal symptoms are less marked than in adults; the younger the children, the fewer and smaller the ulcerations. The tongue, as a rule, remains moist, and temperature is like that in the adult, though hyperpyrexia is commoner. The pulse is seldom dicrotic. Lenticular rose-spots are the only pathognomonic symptoms in children. Desquamation is frequent after this disease in the very young. Abnormal eruptions are also of frequent occurrence. The duration of fever is shorter in children, though relapses occur more frequently, and are usually less serious than the first attack. Convalescence is rapid, and prognosis is mainly dependent on age: grave under three years, less so at four, and generally favorable at five and more.

An editorial[26] states that in cases which perspire considerably, especially those in which the coal-tar antipyretics have been given, miliary vesicles or sudamina are often present, particularly on the chest and abdomen. During the early stages of the disease an erythematous rash may appear, first on the chest, as a rule, usually extending from there all over the body with the exception of the hands and face. This rash occurs with considerable frequency, rather more so than either urticaria or herpes, neither of which is by any means uncommon.

In forty cases of typhoid Osler[27] noticed diarrhœa in 99 cases and pain in the abdomen in 23 cases.

Marked sleepiness sometimes appears as a premonitory symptom of the disease. A boy, 18 years of age, a bank-clerk, consulted our Associate Editor, Dr. J. E. Graham, of Toronto, complaining of his inability to keep awake. He

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[25] Annales de la Policlinique de Bordeaux, Mar., '98.

[26] Jour. Amer. Med. Assoc., July 9, '98.

[27] Johns Hopkins Hosp. Reports, Jan., '98.

was sent home by the manager, because he would fall asleep at his books and constantly make mistakes. A prescription was given him which he brought to the druggist and fell asleep in the chair while he was waiting to have it made up. He went home and slept the greater part of three or four days when elevation of temperature and other symptoms of typhoid fever appeared. The case terminated fatally, and on post-mortem examination the characteristic lesions were found in the intestines. The urine was normal throughout, except on one or two occasions, when there was a trace of albumin.

Quentin[28] following up Professor Archard's memorandum of October, '97, by observations of his own, says that in certain febrile affections (typhoid fever, acute articular rheumatism, tuberculosis) the palmar and plantar regions take on a special yellowish coloration, and during convalescence those regions which exhibit this coloration desquamate abundantly. In typhoid fever this phenomenon, being well defined and frequently observed, takes on a special significance and is of considerable diagnostic value.

The same writer calls attention to the occasional similarity of some of the symptoms of typhoid fever and other affections. He attended at the same time two patients of about the same age, one suffering from typhoid and the other from tubercular meningitis. The pain seemed to be of nearly the same character and equally severe in both cases until after the third day, when in the case of fever, the pain did not retain its sharp character. In another case the typhoid disease simulated an attack of acute nephritis. The patient, a man of about 50 years of age, came complaining of loss of appetite, nausea, fever, and some headache. The urine contained a large amount of albumin. A diagnosis of acute nephritis was made, and it was not until the third visit, which was made to the patient's home, that the peculiar dull expression of countenance was noticed, and, upon further examination, tympanites and rose-colored spots were discovered. The patient passed safely through rather a severe attack of fever and the urinary symptoms quite disappeared during the stage of convalescence.

Diagnosis.—Courmont[29] has recorded quite a number of instances in which it has been impossible to get a positive serum reaction until after ten, twelve, or fifteen days or even more. The appearance of agglutinins is an indication of a salutary defensive reaction.

In a typhoid epidemic J. P. Barber[30] made 751 serum-tests from 205 of his patients; 156 of these showed a positive and 49 a negative reaction. In no case in which a positive reaction was found could the diagnosis of typhoid be positively excluded, and in no case in which the reaction was absent could a positive clinical diagnosis of typhoid have been made. The diazo reaction was present in 128 of the 150 cases, absent in 9, and no test was made in 19.

The reliability of the diazo reaction is much impaired by the fact that it appears in other diseases.

In a comment on Widal's test A. H. Stewart[31] draws attention to the fact that there is really a triple reaction: a clumping of the bacilli, a stoppage of their movements, and a bacteriolytic action. This latter was much more commonly found in the blood of soldiers from the South than those from the

[28] Archives Gén. de Méd., May, '98.
[29] Gaz. des Hôpitaux, Aug. 11, '98.
[30] N. Y. Med. Jour., Apr. 16, '98.
[31] Phila. Med. Jour., Sept. 17, '98.

North. The Widal reaction is a reaction of immunity, and not of infection, though it would be difficult to prove that the bacteriolytic action is not specific.

S. R. Christophers[32] calls attention to the fact that two errors may be present when a positive Widal reaction is obtained. The first is the mutual interaction of the typhoid and Gärtner's bacilli. The second the fact that normal serum may, with certain typhoid microorganisms, give a reaction to the so-called specific one.

Gerhardt[33] does not consider the Gruber-Widal reaction in typhoid fever of much practical value for the practitioner. While the positive presence is not always conclusive, a negative reaction is not absolutely exclusive for typhoid.

Talamon and Castaigne[34] observed 2 cases of typhoid fever in women suckling their infants. The first patient had been delivered three months when the fever set in. The milk and the blood exhibited clearly the agglutinative properties of Eberth's bacillus. The blood of the suckling did not agglutinate. The second mother was taken ill with typhoid fever four months after delivery. The agglutinative power in the blood and milk was very strong. The infant had suffered for a month from severe gastro-intestinal disturbance. Then its blood was found to agglutinate, and it was weaned. The agglutinative power diminished, and at length disappeared. The child was again put to the breast, and very soon its blood again agglutinated the bacillus of Eberth.

A patient came under J. E. Graham's observation last winter whose temperature-chart for the first ten days resembled that of pyæmia, and afterward became more of a typhoid character. The symptoms were those of typhoid, and Widal's reaction was pronounced.

Groyn[35] notes a very interesting case of infection with a Para colon bacillus which presented all the clinical features of typhoid fever: rose-colored spots, enlargement of the spleen, no diarrhœa, and temperature that of typhoid fever.

The diazo reaction was present, but Widal's was not given at any time.

H. Stuart MacLean[36] states that the absence of leucocytes is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication. Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure.

L. Guinon[37] notes three cases of typhoid fever contracted in a hospital: an occurrence which he deems as invalidating the belief that hospital contagion does not exist.

John Brownlee[38] contributes evidence in favor of the view that the germ of enteric fever may be transmitted through the air.

Petruschky[39] reports the case of a patient who, in a state of semistupor during the absence of his nurse, voided his urine into a bottle containing champagne which he found on a neighboring table. Some time later in pouring out the fluid for the purpose of giving the patient some of the champagne, the

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[32] Brit. Med. Jour., Sept. 13, '98.
[33] Med. News, Jan. 29, '98.
[34] L'Obstétrique, Jan. 15, '98.
[35] Johns Hopkins Hosp. Bull., Mar., '98.
[36] North Carolina Med. Jour., Oct. 5, '98.
[37] Brit. Med. Jour., Jan. 8, '98.
[38] Lancet, Apr. 16, '98.
[39] Centralb. f. Bakter., vol. xxiii, p. 580, '98.

nurse was struck with its turbid appearance. Deciding to taste it before administration, she failed to detect anything unusual until she had swallowed a portion. The nature of the mixture was now discovered, and although vomiting followed yet she developed typhoid fever after an inoculation period of twelve days.

E. Fränkel and Kister[40] report an epidemic in Hamburg which appeared to be spread by milk. In a small number of the cases buttermilk was suspected. The degree of acidity present was not sufficient to kill the microbes. In all the buttermilk-tubes infected with the typhoid bacillus a gradual diminution was noticed, so that at the body-temperature they could not be found after twenty-four hours.

T. Orme Dudfield[41] renews the contention that a certain proportion of enteric-fever cases result from the eating of the oyster and other varieties of shellfish, the places of storage being but too often open to suspicion of contamination by sewage.

Experiments demonstrating the possibility of communicating the typhoid fever to rabbits were performed by Remlinger.[42] The animals were fed with lettuce soaked in water containing a pure culture of the bacillus typhosus. Of eight rabbits thus experimented on, four remained unaffected, although typhoid bacilli were found in the stools. The fifth suffered from a febrile attack lasting eleven days, but the blood did not give Widal's reaction. The three remaining animals suffered from typical enteric fever, rise of temperature, malaise, and diarrhœa being the principal symptoms. The blood in each case gave Widal's reaction. At the autopsy a catarrhal inflammation of the intestines was found with proliferation and ulceration of the intestinal glands, enlargement of the mesenteric glands and of the spleen. Cultures of typhoid bacilli were made from various parts of the body. The same method gave similar results in white rats, and in one case a pure culture of typhoid bacilli was obtained from the blood in the heart.

William Fordyce[43] concludes that typhoid fever can be communicated to the fœtus *in utero*, which, as a result of this infection, may die and be expelled prematurely; the fœtus may be born alive, but weakly, and evidently suffering from the infection; or the fœtus may be born alive and healthy, having passed through the infection *in utero*.

Pathology.—Mallory[44] says that histologically the essential lesions of typhoid fever are proliferative and they stand in close relationship to those of tuberculosis, but the typhoid bacillus bears no such intimate relation to the lesions of typhoid fever as the tubercle bacillus does to the lesions of tuberculosis. In typhoid fever the lesions are essentially diffuse, in tuberculosis they are focal. Judging from the gross and histological lesions alone, we have to do in typhoid fever with a mild toxic agent which in part is absorbed from the intestinal tract, in part is produced within the body in the various organs and in the blood.

Sidney Martin[45] believes that the primary infection is intestinal and that the ulceration is the result. The part of the intestines affected—namely, Peyer's patches—is the least protected part of

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[40] Münch. med. Woch., Feb., '98.

[41] Treatment, Feb. 10, '98.

[42] Annal. de l'Inst. Pasteur, No. 11; Brit. Med. Jour., Mar. 12, '98.

[43] Scottish Med. and Surg. Jour., July, '98.

[44] Jour. Boston Soc. of Med. Sciences, Apr., '98.

[45] Brit. Med. Jour., July 9, '98.

the mucous membrane, and is a tissue of only slight metabolic activity covered with a single layer of epithelium with no villi; whereas the rest of the mucous membrane is covered with villi which are more or less constantly in a state of active metabolism.

William Osler[46] met with a case in which there was general infection without involvement of the lymphatic tissues of the intestine.

Virulent cultures of typhoid bacillus were injected by Lépine and Lyonnet,[47] between two ligatures in the small intestine of a dog. The serum, which was examined on different days from the beginning of the operation, always gave a very evident agglutination, exceeding 1 per cent. The dog was killed on the twentieth day after the operation; no lesion was found in the mucous membrane, and there was no increase in the size of the spleen, but an enormous tumefaction was found in the mesenteric ganglia. In spite of the absence of intestinal lesions, there was a general infection. This experiment confirms the reality of those abnormal forms of typhoid fever in which the cardinal symptoms are absent and of which a positive diagnosis would be impossible if we did not possess the very valuable sign of the agglutinant reaction.

M. Engelhardt[48] found in an autopsy on a man who died from typhoid fever, large numbers of grayish patches in the liver, which examination proved to be foci of necrosis filled with typhoid bacilli.

J. E. Graham states that the pathogenic agent, the bacillus typhosus, is always present, principally in the intestinal and mesenteric glands and in the spleen. The organisms have been frequently isolated from the biliary passages, from the blood in the rose-colored spots, and they are occasionally found distributed throughout the blood and tissues of the body.

Sidney Martin[49] mentions the fact that the ordinary cultures of typhoid bacilli are not virulent and will not produce death, also that Chantemesse and Widal rendered the bacilli of an ordinary culture virulent by injecting it under the skin of a rabbit when at the same time they injected into the peritoneal cavity 8 to 10 cubic centimetres of the sterilized products of the staphylococcus. One might infer from this that typhoid bacilli which are non-virulent may become virulent owing to a changed condition of the system.

Complications.—A. E. Griffin[50] reports a case of typhoid in which there were marked fluctuations beginning on the twenty-first day in the course of a usual, even typhoid temperature, which first became elevated to 105.2°, falling to normal by the next morning. The temperature rose to 104° or more each evening, falling to or below the normal each morning, and on and after the fourth day remaining at the normal. A slight bronchitis developed on the second day. This condition was probably due to the separation of typhoid sloughs, resulting in septic absorption.

In a case reported by Rosenthal[51] the temperature followed the characteristic curve until the thirteenth day. There was then a rapid decline, so that on the fourteenth day it fell to 98°. This low temperature continued nearly a week, despite all efforts to raise it. On the

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[46] Phila. Med. Jour., Jan. 1, '98.

[47] Lyon Méd., Jan. 16, '98.

[48] Gaz. Hebdom. de Méd. et de Chir., June 23, '98.

[49] Brit. Med. Jour., '98.

[50] Brit. Med. Jour., June 25, '98.

[51] Phila. Med. Jour., June 1, '98.

nineteenth day it rose to 102° or 103° and continued near that point until the thirty-fourth day, when the fever disappeared and slow convalescence set in.

J. E. Graham has noticed that thrombosis occurs in some epidemics to a much greater extent than in others. The patient, while doing apparently well, is seized with pain in the leg, which is followed by tenderness over the surface of the vein and by general swelling of the limb. The temperature and pulse show the presence of slight fever. The patient, after remaining in bed a week or so, gradually recovers, but more or less weakness and a tendency to swell is experienced in the limb for months afterward. The left leg is more frequently affected than the right.

A case of glossitis in typhoid fever is noted by T. McCrae.[52] It is the fifth out of seven hundred treated in the hospital. After twenty-four days of normal temperature the glossitis seemed to be the first symptom of a typical relapse. The latter lasted two weeks and was mild throughout. The glossitis lasted about five days and terminated by resolution.

The pharyngeal mucous membrane is often the seat of catarrhal inflammation. In occasional cases inflammation of one or both parotid glands takes place, which generally ends in suppuration and sometimes in sloughing. Parotiditis was present in 45 of the 2000 Münich cases. It may rise from inflammation continued along Steno's duct or from metastasis. The submaxillary gland is sometimes attacked. Ulcers may form in the pharynx and œsophagus which may end in stricture. The pharyngitis may be of a membranous character.

F. A. Packard[53] records stricture of the œsophagus following typhoid fever.

Four cases of hemiplegia following typhoid fever were seen by J. E. Graham in members of the same family. Seven members had suffered from a severe type of the disease. In two of the cases of paralysis recovery took place in the first year, while in two others the patients did not fully regain muscular power until the end of the second year.

A. A. Eshner[54] states that orchitis is a rare complication or sequel of typhoid fever, and, when it does occur, appears late.

J. E. Graham remarks that perforation occurred in 34 of Osler's 685 cases (2.48 per cent.), and in 4680 cases tabulated by Fitz perforation took place in 6.58 per cent.

G. Bertram Hunt[55] noticed two interesting cases in which spots continued to appear after the temperature fell, but no relapse occurred.

Medico-legal Aspects.—Our associate editor, Dr. J. E. Graham, of Toronto, was called to see a patient in the fourth week of the fever who was suffering from rigors with high elevation of temperature resembling those of pyæmia. He seemed to realize that he was in a dangerous state and was desirous of making his will, as were also his friends. The wish was granted and he appeared to understand what he was doing. The patient recovered and afterward stated that the will was altogether different from that which he intended to make previous to his illness. As he himself expressed it, there was scarcely a correct paragraph in it.

Prophylaxis. — In an editorial[56] a writer directs that the excreta, including the urine, of typhoid patients should be carefully handled, disinfected, and

[52] Johns Hopkins Hosp. Bull., May, '98.
[53] Med. News, Jan. 22, '98.
[54] Phila. Med. Jour., May 21, '98.
[55] Practitioner, Mar., '98.
[56] Phila. Med. Jour., May 28, '98.

disposed of; and in hospitals, at least, the urine should be examined for the bacilli before the patient is allowed to leave, and, if they are found, a vigorous course of irrigation should be employed until by culture-tests the urine is proved free. Then only should he be discharged.

Pfeiffer[57] recently endeavored to prepare a fluid for inoculation against typhoid fever in epidemic and in war. The immunization is made by injecting subcutaneously 2 milligrammes of an eighteen-hour-old agar culture killed by exposure to a temperature of 158° F. In this way the serum of the inoculated person acquires the properties of a serum taken from a patient who has passed through an attack of typhoid fever. For purposes of preservation 5 per cent. of phenol or 50 per cent. of glycerin is added. Phenol does not impair the inoculation material, whereas glycerin weakens it.

Three laboratory assistants were inoculated. The injections were made into the back. In a short time the temperature rose to 100.4° F., with headache and malaise. One was quite well the next day. The second and third had still a temperature of 100.4° F. on the second day, but quite well on the third. There was slight local swelling. Blood taken from these subjects before and after inoculation showed marked immunizing properties after the operation.

Typhoid inoculation material may be kept unimpaired from four to ten weeks by the addition of phenol.

Treatment.—E. G. Wood[58] emphasizes some points in the treatment of typhoid fever. All drains, sewers, and water-closets should be disinfected frequently during an epidemic. The patient should be isolated and seen only by his attendants. Articles which cannot be boiled should be aired eight hours daily. Among articles of diet albumin-water (the whites of eggs mixed with twice the quantity of water) is a good vehicle for brandy or whisky. A full dose of brandy at night is likely to induce sleep in a restless patient. Intestinal antiseptics are useful, especially Burney Yeo's chlorine mixture, which is made by putting into a 12-ounce bottle 30 grains of powdered potassium chlorate and 1 drachm of strong hydrochloric acid; chlorine-gas is at once liberated. The bottle is corked, shaken, and kept closed until it is filled with the greenish-yellow gas, then water is poured into the bottle little by little, the bottle being corked and shaken at each addition until the bottle is filled. To this solution may be added quinine (24 to 36 grains) and syrup of orange-peel (1 ounce). Of this 1 ounce should be given every 2 to 4 hours according to the severity of the symptoms, especially those of tympanites, diarrhœa, and fœtid stools. Instead of sprinkling water on the patient while using the cold wet pack, a succession of towels wrung out of cold water and rapidly changed may be laid over and around his body.

For constipation enemata are preferable.

W. B. Thistle[59] insists upon the importance of the eliminative treatment of typhoid fever in order to prevent the absorption of the toxins, to facilitate their elimination from the body, and to prevent the multiplication of the bacilli in the intestine or to keep the intestines entirely free from them. The disease is entirely a local disease at first, but subsequently infection of the organism occurs,

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[57] Deutsche med. Woch., Aug. 4, '98.
[58] Amer. Medico-Surg. Bull., Nov. 10, '98.
[59] Med. Record, Sept. 10, '98.

and by the method of elimination typhoid fever can be, to a considerable extent, controlled.

J. C. Cockburn[60] observes that guaiacol-carbonate is very valuable as an antiseptic in typhoid. In the urine or kidneys the guaiacol-carbonate decomposes into carbolic acid and guaiacol. When the dose is sufficient to cause the characteristic odor of carbolic acid or creasote in the urine or odor of guaiacol in the perspiration, a full antiseptic and therapeutic dose has been reached. Three grains three times a day are usually sufficient, though 4 grains four times may be given. In some cases great benefit will be obtained by an intestinal antiseptic, as listerin or menthol, in addition to the guaiacol-carbonate. In children up to twelve or fourteen years of age, calomel triturates of $^1/_4$ to 1 grain or calomel and soda in small repeated doses should be given. In adults calomel alone is not so well adapted. The combination of calomel, soda, and podophyllin is the best form of administering calomel to adults with typhoid fever. This combination in sufficient doses to produce three or four formed stools in twenty-four hours, is adequate.

For supporting measures alcoholic stimulants are seldom, if ever, needed. The ordinary nourishment for fever—as milk, broth, beef-tea, eggs and milk, oysters, or oyster-broth, custards and *blanc mange*, and farinaceous breakfast-foods—are well borne with this course of treatment. Baths are a very important supporting measure. The cold bath, however, is not necessary, as better results can often be obtained from a warm or hot sponge-bath and the patient left exposed to the air without wiping dry.

In discussing the treatment of typhoid fever S. Phillips[61] says toxæmia is probably the most common cause of death, and in order to lessen its dangers the antiseptic method of treatment should be adopted. The most useful antiseptic is mercuric chloride. Salol is also useful, and benefit is derived from a daily enema of some disinfectant solution, especially when constipation exists. Hyperpyrexia is nearly always due to some local affection, and treatment must be directed to the local condition, the temperature in the meanwhile being lowered by sponging, quinine, etc. Pyrexia is best treated by the cold bath. When the bath cannot be used, sponging with tepid or cold water, effusions, or wet packs, are better than drugs. Quinine is the only drug that should be given. In the matter of treatment of the circulation, the one essential is to prevent waste of material through diarrhœa, hæmorrhage, or profuse sweats, and to supply as much nourishment as can be digested and absorbed. Milk should be the simple diet. In cases in which vomiting or diarrhœa exists, beef-tea or meat-extracts may be substituted. Stimulants are not necessary as a routine treatment. Opium is admissible to secure sleep. In cardiac weakness digitalis, strychnine, and caffeine may be carefully used. Ether, ammonia, sumbul, and diffusible stimulants are often useful. In order to keep up the volume and composition of the blood, sweats should be checked by belladonna and diarrhœa by enemas. Cold water may be given freely. Oxygen-inhalations are sometimes useful. Solid food should be given after three days without fever at any time within the twenty-four hours. Saline injections, to be administered when there is profound bloodlessness and weakness, are preferably injected into

[60] Northwestern Lancet, July 15, '98.

[61] Brit. Med. Jour., Nov. 12, '98.

the basilic vein by means of simple cannular drainage-tube and funnel. Two pints at a temperature of from 100° to 115° may be introduced. Operation is indicated in all cases in which perforation can be diagnosticated. In the treatment of diarrhœa enemas of starch and opium are more useful than drugs by the mouth. Bismuth salicylate in 30-grain doses three or four times a day should be given. When tympanites is present and the abdomen is soft and doughy, diffusible stimulants are useful; when the abdomen is tense, hot fomentations and the passage of a long tube into the rectum, with the administration of food in small quantities, usually bring relief.

J. M. Clarke[62] regards bismuth naphthol, given every two and a half or three hours, day and night, 5 grains, as most useful. Besides the marked effect on diarrhœa and odor of the stools, it has a most important action in preventing excessive abdominal distension.

William Osler[63] argues that the bowels should not be disturbed in the course of the disease. With the exception of a few doses of turpentine for tympanites, or measures directed against hæmorhage or active diarrhœa, one should abstain from all active interference. Occasionally for the constipation of convalescence castor-oil may be given, but never the so-called intestinal antiseptics, nor salts. Injections are preferred if the bowels are at all constipated, or the milk may be diluted, and the amount of albumin-water increased.

According to S. Solis-Cohen,[64] the patient should have physical and mental rest. The development of the course toward recovery should be regulated rather than interfered with; danger of hæmorrhage should be averted by precautions in diet. One should avoid overburdening the digestion, yet the patient should be nourished adequately. The bowels should be kept clean and sepsis reduced, the secretions maintained, the peripheral circulation kept up, and useless drugging omitted.

Adolph Koenig[65] believes that patients suffering from typhoid fever should receive nourishment only in response to their demand for it, as indicated by hunger.

Chester M. Carlaw[66] says that at times during the course of typhoid fever when collapse or urgent heart-symptoms seem to threaten life, whisky, brandy, or champagne will be found most valuable as ready, diffusible, cardiac stimulants. Their employment, however, should be continued only until the system can be brought under the influence of other drugs more lasting in their stimulating effect. The stimulating effect of alcohol is too temporary to fulfill the requirements of an agent capable of overcoming and sustaining the heart through the period during which it generally requires support or aid.

Alcoholic stimulants should not be withdrawn from those who have been accustomed to their continuous use.

Inspired by Weisbecker's publications, Walger[67] treated four cases of typhoid fever with serum from convalescents. None of the cases would ordinarily have been looked upon as hopeful. In all, the injection of the serum was followed by a pronounced change in the general condition, and by an unusually early disappearance of the fever. There seems also to have been a beneficial action upon

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[62] Bristol Medico-Chir. Jour., Mar., '98.
[63] Phila. Med. Jour., Jan. 1, '98.
[64] Penna. Med. Jour., July, '98.
[65] Phila. Med. Jour., May 21, '98.
[66] Northwestern Lancet, July 15, '98.
[67] Centralb. f. inn. Med., Sept. 19, '98.

the local process. The fact that relapses occurred in two cases is convincing that both would have been exceedingly severe if they had not been treated with the serum.

In typhoid fever John H. Curtis[68] states that his personal experience with kryofin has been limited, cold having been the antipyretic agent usually employed. In the cases in which kryofin was used, however, it was noted that the temperature was reduced from 2 1/2° to 3 1/2°, without producing any unpleasant symptoms, such as chills, depression, cyanosis, etc. The administration of a dose of 6 to 8 grains about an hour before the time of the highest temperature prevented in a large measure the temperature from going beyond the danger-point.

H. A. Hare and C. A. Holder[69] maintain that early in the disease a full dose of calomel in divided doses should be given. When the fever reaches 102° F., it should be controlled by sponging, the rapid application of a low temperature being more refreshing than the prolonged application of a higher temperature. If this does not bring the temperature down to 100.5° or 101° in twenty minutes, resort should be made to the tub. It is advisable to use moderately-active massage. In nearly all cases more nourishment should be given than the average typhoid patient has usually had in the past. With the exception of broths and meats, almost any article easy of digestion should be allowed. Stimulants, particularly alcohol, in carefully-graduated doses, should be used whenever the circulation needs them.

The same authors state that after having examined the data and statistics—domestic and foreign—the following conclusions have been reached:—

The mortality for typhoid fever today all over the world is not over 15 per cent.

The Brandt treatment does not shorten the attack, but probably prolongs it. Relapses are much more frequent under it. Hæmorrhages are more frequent. The frequency of perforation is not diminished.

The cold bath is evidently responsible for a saving at the most of but 2.5 per cent.; and it is also evident that this 2.5 per cent. is saved by the favorable effect of the bath on the nervous system, circulation, respiration, and the toxæmia.

J. E. Graham[70] says the mortality of typhoid cases in the Chickamauga Park treated according to the Brandt system has been 6.25 per cent.

Elmer Lee[71] orders that water at a temperature of 75° F. from a fountain-syringe be directed through a small sprinkle-nozzle first on the front and then on the back of the patient's body. Only a small amount of water is used. After the bath the patient is covered with a blanket, and the water from the spray is allowed to evaporate. This sprinkle-bath is repeated every two hours for forty-eight hours or so until improvement is manifest, when the intervals are gradually extended.

The colon is also irrigated from time to time with warm water by means of a fountain-syringe. A compress of linen wrung out lightly from ice-water is placed over the abdomen and covered with flannel. This is changed every hour.

R. W. Holmes[72] states that the Woodbridge treatment does not abort. The

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[68] Ther. Gaz., May, '98.
[69] Ther. Gaz., Mar. 15, '98.
[70] Phila. Med. Jour., Sept., '98.
[71] Chicago Med. Rec., Jan., '98.
[72] Phila. Med. Jour., Jan. 15, '98.

mortality is not influenced by the treatment, and the complications are not affected.

Hanford and Anderson[73] report a case of perforation which occurred in the twenty-third day of the disease and was operated on within twenty-two hours of the accident in which recovery followed. The urine was free from albumin until three weeks after the operation, when, after a normal temperature of two weeks, there was a rise to 101° F. Blood, albumin, and epithelial casts were found in the urine. These soon disappeared with the exception of the albumin, traces of which were found.

In cases of perforating typhoid ulcer J. Ewing Mears[74] thinks that surgical interference is not justifiable, and should not be instituted in cases in which the perforation occurs when the infective process is at its height. In mild cases of the disease, in which the pyrexia has not been of high grade and in which perforation occurs at the end of the third week, or later, when the stage of convalescence is fully pronounced, laparotomy may be performed.

According to Henry C. Drury[75] the arguments in favor of not using the bedpan in typhoid fever are: 1. Less annoyance to the patient. 2. More complete evacuation of the bowel, and therefore less frequent disturbance. 3. The more natural position causes less straining, and therefore really less risk of either hæmorhage or perforation. A weak patient cannot fall off the chair, on account of the strong high arms, which give him comfortable support while he sits. It will, of course, be objected that this is a ready way of courting disaster, either by hæmorrhage, perforation, or syncope. It has not, however, been found to be so. During a period of five months 92 cases were treated, 9 of whom died. Of the 83 that recovered not one had either hæmorrhage or perforation.

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[73] Brit. Med. Jour., July 22, '98.
[74] Annals of Surg., July, '98.
[75] Dublin Jour. of Med. Science, Aug., '98.

Cyclopædia of Current Literature.

ACETANILID POISONING.

Case of fatal acetanilid (antifebrin) poisoning in a male, aged 37 years, who had taken, within a few hours, 50 grains of the drug. The patient's life was sustained for nine days.

There was a general hyperæsthesia, and not an anæsthesia, as is stated to result from a poisonous dose of acetanilid. There were increased reflex-actions, and motor and sensory functions were retained practically to the end. The patient retained nothing on the stomach from the first and was fed per rectum. Vomiting occurred frequently, nevertheless. Arterial pressure was constantly low, and the pulse-rate steadily increased until just before the end. The respirations were slightly increased, and varied but little until the last few hours, when they increased to thirty a minute. They were always shallow, and the diaphragm did not appear to move at all.

The temperature per rectum appears to have been elevated by the toxic dose, but it fell gradually to several degrees below normal. There was a progressive destruction of red blood-corpuscles down to 1,116,000, with 30 per cent. hæmoglobin on the day of death. There was a very great leucocytosis and a large number of nucleated red cells of all sizes.

The alkalinity of the blood was diminished 80 per cent. There was hæmoglobinuria (hæmatoporphyrinuria), beginning twenty-four hours after the dose was taken, and complete suppression of urine three days before death. There were also acute, diffuse nephritis, hæmorrhage from the intestines, and acute progressive jaundice. Philip King Brown (Pacific Record of Med. and Surg., Jan. 15, '99).

Phenacetin and acetanilid cause cyanosis in some cases even when only 10 grains are given. Case in which, from dusting acetanilid on a little mass of granulation-tissue, which appeared at the umbilicus after the cord had separated, cyanosis was produced, which lasted several days. Subsequent events proved the projection to be a diverticulum of the intestine. There were probably not more than 1 or 2 grains absorbed. In giving acetanilid or phenacetin some cardiac stimulant should be added. If the heart is at all weak they should not be used, or else they should be given with digitalis or the powder should be washed down with a draught of whisky. J. Henry Barbat (Pacific Rec. of Med. and Surg., Jan. 15, '99).

ACNE ROSACEA.

Treatment.—The treatment of acne rosacea is divided into constitutional and local. In women any menstrual disorder should be corrected as far as possible. All alcoholic stimulants should be stopped.

Good, plain diet should be taken, and the patient should be told to avoid all forms of pork, pickles, salads, especially salad dressings, highly-seasoned foods, rich gravies, sauces, cheese, pastry, candies, cakes, boiled coffee, strong or long-drawn tea, and very hot liquids. The use of sugar and tobacco should not be too liberal. Fresh fruits and green vegetables are to be recommended.

For the constipation fluid extract of cascara sagrada has proved to be the most useful, and it is usually ordered to be taken at night.

If the tongue is very coated an alkaline bitter tonic should be given.

This attention to diet and correction of constipation will improve the condition, but will not cure the disease, especially in its second or third stage; so that local treatment is always necessary. This consists in the use of the proper kind of soap, the application of local remedies, scarification, or the use of the electric needle.

When the skin is much thickened, and there are many acne papules and pustules, the German green soap is the best, used with hot water, and a piece of white flannel every night, until the skin begins to peel considerably. In the less severe cases white Castile soap is very good. Five-per-cent. resorcin soap (Eichoff's) is very efficacious in aiding the treatment.

The chief constituent of acne lotions and ointments is precipitated sulphur. Speaking generally, lotions are more applicable in the summer months or when the skin is greasy, whereas ointments are more useful in the winter. With the precipitated sulphur, which is made up with lanolin, one can use salicylic acid, 2 to 7 per cent., when the skin is hypertrophied. Sweet-almond oil should be added to give a soft consistency to the mixture (dr. j to oz. j). A prescription for an ointment would be as follows:—

℞ Sulph. precip., dr. i-iv.
Acid. salicyl., gr. x-xxx.
Ol. amygdal. dulcis, dr. j.
Lanolin., oz. j.

Sig.: Apply at night after washing.

(The salve should not be gritty, but perfectly smooth.)

As a lotion, Kummerfeld's solution, used in varying strength according to the severity of the case, will be found to be very efficacious, especially in connection with scarification.

℞ Sulph. precip., dr. i-iij.
Pulv. camph., gr. v.
Pulv. tragacanth, gr. x.
Aquæ calcis, oz. j.
Aquæ rosæ, oz. j.

Sig.: Apply after washing at night.

Scarification or the application of the electric needle is a very necessary adjunct to the treatment.

Scarification can be done in three ways:—

1. By linear scarification.
2. By slitting up the dilated cutaneous blood-vessels.
3. By puncturing rapidly.

The third plan is the best, and it is applicable in all stages of the disease, but especially when there are no very large vessels which can be treated with the electric needle.

The bleeding which ensues from the rapid puncturing is sometimes profuse, but it soon stops on applying absorbent cotton. In puncturing, the best plan is to stretch the skin and then puncture perpendicular to the surface of the skin about one-sixteenth of an inch in depth. After a little practice one can soon puncture quite rapidly, and after a longer trial of this method it will be found that one can make nearly 500 punctures per minute, so that the nose, for example, could be scarified in about ten to fifteen seconds. This plan of treatment is carried out once or twice a week, according to the severity of the case. It will be observed very noticeably how much less severe the bleeding is as the case improves. If similar scarification is done on normal skin very little bleeding ensues—in fact, only a few drops will ooze out of the punctures.

Lassar has invented an electric motor attached to a puncturing machine with 100 points, which thus allows of greater rapidity of action.

In nervous patients one can benumb the skin by using an ether-spray on the skin or ethyl-chloride. This form of scarification is never followed by scars. All sebaceous plugs should be expressed, and all acne papules and pustules should be opened.

The advantage of this plan is that the patients look no worse after leaving the office than when they entered, so that there is no transient disfigurement, as in the linear scarification.

The electric treatment is especially efficacious for the destruction of the dilated blood-vessels. The galvanic battery is used, and the patient holds the positive pole, with a moistened sponge attached, in the hand, while the doctor uses a fine platinum needle attached to the negative pole.

The writer uses from four to eight cells of a dry silver-cell battery. The needle is inserted into a blood-vessel, the circuit is made by the patient's grasping the sponge, and if the needle has entered the vessels bubbles are seen to arise in it; the skin around becomes whitish and the vessels disappear. Only a few seconds are required to produce this result. Each visible vessel is thus treated. No scars are left.

For redness alone the application of both sponges of negative and positive poles over the patch and moving them about for fifteen to twenty minutes produces good results. A similar strength of current is used in this method.

The prognosis is very good—in fact, all cases are practically curable.

For the greatly hypertrophied condition that is sometimes seen on the nose surgical interference is necessary. T. Caspar Gilchrist (Maryland Med. Jour., Dec. 10, '98).

ACUTE INFLAMMATORY GLAUCOMA.

Diagnosis.—The two diseases with which acute inflammatory glaucoma is most likely to be confounded are acute conjunctivitis and acute iritis, and if the treatment of iritis be instituted in a case of glaucoma, or *vice versâ*, much harm may—and probably will—result therefrom. Acute inflammatory glaucoma presents a sudden onset, a rapid reduction of the visual acuity, a hazy and more or less anæsthetic cornea; a widely-dilated pupil, responding very sluggishly, if at all, to the various reactions; and elevated tension. Acute iritis presents a gradual onset; not so marked a reduction of vision, as a rule, as in glaucoma; the cornea is not so hazy nor anæsthetic, the pupil is contracted, and —if the iritis existed for a short time— the iris is attached to the capsule of the lens, the tension remaining unaffected. Acute conjunctivitis presents no marked reduction in the visual acuity, no severe pain as is found in iritis and glaucoma, the pupil reacts promptly, and the tension is unaffected.

Treatment.—The treatment of acute inflammatory glaucoma is of two kinds: medicinal and surgical. The medicinal, if employed alone, is usually of temporary benefit only, surgical intervention being required to check the progress of the disease. Leeches applied to the temple and hot fomentations to the closed lids assist in reducing the inflammation and alleviating the pain, though, if the latter be very severe, hypodermic injections of morphine may be required. Rest in bed if the patient be in a weakened condition, the administration of nourishing diet and stimulants if required, darkening of the room if there be much dread of light, and the use of smoked glasses when out-of-doors are measures to be advised.

The internal administration of salicylate of sodium in large doses also seems to be of benefit in some cases.

It seems to be good practice to instill into the eye a drop or two of a solution of eserine (about 2 grains to the ounce), or of pilocarpine (about 4 grains to the ounce), every half-hour for six or eight hours, using at the same time a 4-percent. solution of cocaine to assist in relieving the pain and to render the iris more susceptible to the action of the myotics, and if, at the end of this period, the pupil remains dilated and the tension still above the normal, it is better to adopt surgical intervention at once. If, on the other hand, the pupil responds to the action of the myotic and the tension becomes normal, it is not necessary to operate until the attack has subsided.

The operations that are performed for the reduction of intra-ocular tension are paracentesis of the anterior chamber, anterior sclerotomy, posterior sclerotomy, and iridectomy. The first of these is a temporary measure. A carefully performed broad peripheral iridectomy is the best of the measures in the majority of cases, and it should be performed during the inflammatory stage if drugs fail to produce amelioration of the symptoms. C. A. Veasey (Penna. Med. Jour., Dec., '98).

ADENOIDS IN ADULTS.

Though adenoids are easily diagnosticated in infants, yet in adults the symp-

toms are not at all characteristic. Adenoids generally disappear with puberty, but they do not entirely vanish. The symptoms in adults, more or less systemized, are nervous affections, failure of memory, respiratory affections, headaches and alterations of taste and smell, as well as lesions of the ear, nose, nasopharynx, and larynx. The number of cases personally seen during the last year was seventy, of which number thirty-nine were operated on. In most of the cases operated on there was much improvement and never a complication. Excision with the knife of Gottstein is the best treatment. P. Hellat (St. Petersb. med. Woch., Nos. 25, 26, '98).

ALCOHOL UPON THE DIGESTIVE PROCESSES.

Whisky can be considered to impede the solvent action of the gastric juice only when taken immoderately and in intoxicating quantities.

Brandy has a slight retarding action on pepsin-proteolysis when present in quantities ranging from 5 to 10 per cent. When the gastric juice is relatively weak, then the retardation may be quite pronounced. The same conclusions regarding brandy and rum may be drawn that have been drawn in connection with whisky.

Wines as a class, taken in small amount, have little or no deleterious influence upon the chemical processes of gastric digestion. In small amounts they may even increase somewhat the rate of digestive action, owing to the alcohol, and perhaps other substances, contained in them. In larger quantities they have more or less of a retarding effect upon gastric digestion: an effect which is dependent rather upon the character and amount of the solid matter present in the fluid than upon the contained alcohol, bouquet-flavoring, or other volatile material. Indeed, wines differ most markedly from liquors of the brandy and whisky type, in that their action upon gastric digestion is not at all proportional to their content of alcohol.

The retarding effect of malt-liquors is, as is the case with wines, altogether out of proportion to their content of alcohol. Containing, as a rule, not much more than 4 to 6 per cent. of alcohol, the latter, when consumed in the ordinary forms of malt-liquors, can have very little influence upon the chemical processes of gastric digestion. When, however, these beverages are consumed very freely with the meals, so that the digesting mass in the stomach contains 50 or 60 per cent. of these fluids, the retarding action upon the solvent or digestive power of the gastric juice must be very considerable, owing to the action of the extractives they contain. Taken in small quantities, on the other hand, these malt-liquors are without any marked effect upon the proteolytic action of the gastric juice.

Distilled alcoholic liquors, such as whisky, brandy, etc., have a far-greater retarding action upon trypsin-proteolysis. Further, this retardation is not due wholly to the contained alcohol, but is attributable in part to the solid matter present. Wines, with their high acidity and low alcoholic strength, exert a retarding action on tryptic digestion more nearly proportional to the acidity than to the amount of alcohol or even to their content of solid matter. The malt-liquors, on the other hand, owe their retarding influence mainly to the large percentage of extractives of various sorts which they contain, the alcohol playing a minor part in the inhibition caused by the fluids of this class.

The retardation of salivary digestion caused by ordinary alcoholic drinks is in character similar to the retardation which follows the use of vinegar, lemon-juice, or other acid fluids or mixtures, such as salads highly seasoned with vinegar, etc., the only difference being that the latter class are unquestionably more vigorous in their retarding action from their great degree of acidity. R. H. Chittenden (Jour. of Med. and Science, Jan., '99).

AMMONIUM FLUORIDE IN GASTRIC FERMENTATION.

Ammonium fluoride acts upon lactic, butyric, and acetic fermentations, not only by destroying the ferments, but by modifying favorably the influence of the gastric juice on the digestion of albuminoids and the refuse. Its bactericidal action is not simply transient, but appears definite. Ammonium fluoride has no noxious action on the chemical ferments of the stomach. It is perfectly tolerated, and has no toxic action on the organism. Baudoin (N. Y. Med. Jour., lxviii, p. 720).

ANGIOKERATOMA.

Angiokeratoma is an affection of the skin which attacks the dorsal and lateral surfaces of the hands and feet, and is characterized anatomically by a dilatation of the vessels, increasing from the periphery toward the centre of the efflorescence, where it takes on the character of capillary aneurisms. It generally appears after long-continued and repeated attacks of chilblain. Before the chilblain the fingers and toes are usually cyanotic, blue, and somewhat swelled; so that this period may be regarded as the preliminary, and the chilblain as the secondary stage, after which angiokeratoma appears. It occurs in young persons. It may be regarded as a disease endemic in certain districts. Wisniowski (Archiv f. Derm. u. Syph., B. 14, H. 3).

ANTIPYRINE INTOXICATION.

In the case of a woman who had syphilis in 1894, for which she was thoroughly treated, nearly three years later syphilitic manifestations appeared, consisting of mucous patches in the mouth and vulva, and also chronic induration of glands. These symptoms again disappeared under treatment. In April, 1898, she took $7\,^1/_2$ grains of antipyrine on account of headache, and on the following day had a crop of vesicles in the mouth, which soon disappeared. A few days later she took another dose of $7\,^1/_2$ grains of antipyrine. In the same evening she shivered, was feverish, and had an urticarial eruption over the body. On the next day there were numerous vesicles on the mucous membrane of the cheek, soft and hard palates, upper and lower lips, and also on the vaginal mucous membrane. The patient thought that this was relapse of the syphilis. In four days the vesicles began to dry up, but food was taken with much difficulty. The urticaria-like rash had now disappeared. It was thought that this eruption of vesicles must be due to antipyrine, and therefore nothing but simple treatment was used. In a few days the eruption entirely disappeared. The importance of the differential diagnosis in this case is obvious. Immerwahr (Berl. klin. Woch., August 22, '98).

ARGIL.

Surprisingly favorable results have been obtained with the copious application of dry argil to wounds of all kinds, which heal under it without any reac-

tion. Even the suture threads pull out dry, not in the least sticking. The absorbing power of the clay is most remarkable, as evidenced by numerous tests, such as wadding a little cotton, very wet with water and defibrinated blood, and rolling it around in some clay for fifteen or twenty minutes, when it will be found so coated with clay that it is practically a heavy clay ball. Broken open, the wad of cotton drops out like the kernel of a nut, perfectly dry. All moisture has been absorbed into the clay shell. A number of instances observed in which crushed hands, suppurating ulcers, and even ozæna, treated with the dry clay first lost all odor and then healed in the most aseptic conditions. J. Stumpf (Münch. med. Woch., Nov. 15, '98).

BANTI'S DISEASE.

Clinically Banti's disease is divided into three stages. In the first, or anæmic, stage, the spleen commences to enlarge. An anæmia of more or less marked grade develops; the temperature may be normal or there may be fever associated with chills. This stage usually lasts from 3 to 5 years, but may run on for 10 years. The second, or transition, stage is characterized by changes in the urine, slight general jaundice and digestive disturbances, and lasts only a few months. The third or ascitic stage is characterized by the development of cirrhosis of the liver and ascites. The patient becomes more jaundiced and the anæmia increases in gravity.

Evening elevation of temperature is common and the patient usually dies in from 5 to 7 months. Severe hæmatemesis is a prominent symptom of the disease throughout. Of the various drugs arsenic yields the best results. Most satisfactory results also have followed splenectomy. Harvey W. Cushing (Phila. Med. Jour., Dec. 10, '98).

BORIC-ACID POISONING.

In two cases profuse dermatitis followed the administration of boric acid. In the first case the condition developed on three separate occasions following the administration of the drug. The patient finally died some time after the last attack, of uræmia following an alcoholic debauch. The manifestations in the second case were similar to those in the first in that they followed prolonged administration of boric acid. Two forms of borax poisoning must be distinguished: One in which a large quantity of the drug is rapidly absorbed from the alimentary canal, from some serous or other cavity, or from an extensive raw surface, causing vomiting and diarrhœa, general depression, skin-rashes, and partial paralysis of the nervous and muscular systems, and occasionally death. The other class results from the administration of boric acid or borax in comparatively small doses for long periods. In some of these cases the kidneys are diseased, in others albumin appears in the urine, and in fatal cases uræmic symptoms are often described. R. B. Wild (Lancet, Jan. 7, '99).

BRONCHIAL ASTHMA.

Treatment.—Trousseau's method of treating asthma by atropine is recommended. The treatment lasts from four to six weeks, commencing with $^1/_{120}$ grain per dose, increasing every 2 or 3 days by $^1/_{120}$ grain until a dose of $^1/_{15}$ grain has been reached. After having reached this amount, the dose is again gradually diminished. On the attack itself the atropine has no effect, but it prevents future attacks for a long time. When no permanent cure is achieved

by the atropine, there is at least a long-lasting improvement, — provided the asthma is not complicated by emphysema and chronic bronchitis. V. Noorden (Münch. med. Woch., p. 1251, '98).

CARBOLIC-ACID POISONING.

In a case of carbolic-acid poisoning by vaginal douches the patient felt extreme burning as soon as the syringing was begun; nevertheless, the entire fountain-bag was allowed to empty itself. In a few minutes the patient complained of agonizing pain all over her pelvis, and began to shriek from suffering. On examination the tissues were found to be very tender to the touch and large eschars appeared wherever the solution had touched the skin.

Treatment.—The patient was immediately syringed with a warm solution of sodium sulphate, 1 drachm to the pint, and cloths saturated with the same solution placed on her blistered thighs, etc. Within ten minutes she felt somewhat relieved, and in thirty minutes all pain was gone. Saturated cloths were kept on the blistered parts all night, and next day the patient was perfectly well.

Sodium sulphate forms with carbolic acid sulphocarbolate of sodium, which is soothing in effect and prevents the carbolic acid from doing further damage. B. Weiss (New York Med. Jour., Jan. 7, '99).

CONJUNCTIVITIS.

There are three forms of conjunctivits which are common. One of these, an acute contagious trouble, is due to the bacillus of Weeks, and gives rise to various symptoms more or less grave. The simple cases may give rise in other persons to grave ones. This conjunctivitis may be accompanied by phlyctenæ or by corneal or sclerotic complications. The best treatment is that by nitrate of silver. The diplobacillus causes a subacute conjunctivitis. This affection is also a contagious one. Sulphate of zinc is the best remedy. The third form of conjunctivitis is the gonorrhœal. These three kinds of bacteria have the power of multiplying on the surface of the mucous membrane, and of inflaming it. Other bacteria (pneumococci and certain streptococci), though normally present upon mucous membrane without setting up inflammation, acquire this property under certain circumstances. Morax and Petit (Revue de Therap., Nov. 15, '98).

ELECTRIC ARC BATH.

The cabinet personally used in treating cases by the electric arc is six feet long, two feet and a half wide, and seven feet high, built in the corner of one of the office-rooms. It is entirely closed in, save for a construction-window, which can also be utilized for the admission of fresh air if desired, and it is lined with zinc throughout in order to prevent any danger of fire from a fragment of burning carbon. Both ends are fitted up with glass compartments in which are suspended the arc lamps, two in number. These compartments are so arranged that the doors may either be closed or opened. In the latter instance the ozone would be eliminated from the bath. The cabinet contains an ordinary wire-mattress cot, which is made up as a bed, and upon which the patient reclines. The current is taken from the Edison incandescent mains of a hundred and twenty volts, and each lamp takes about ten ampères at fifty volts, the remainder being consumed in the rheostat. Each lamp is provided with a reflector, in order, if indicated by the pathological condition, that the light may be focused on a given part of the body. It is best that the zinc

lining should be painted white in order to facilitate the reflection of light, and as the patient lies at rest in the bath he is bathed in a sea of light equivalent to about four thousand candle-power. The patient is preferably nude, although the applications are sometimes made with only a partial undressing. The eyes are protected by means of colored glasses, and, if desired, the hands may be protected also to avoid any chance of sunburn.

All patients, but especially phthisical and bronchial patients, are directed to breathe in fully and deeply while lying in the bath.

In an electric bath there is an expenditure of energy similar in physical character to an expenditure of energy of the solar rays. It would almost seem that the action which takes place as the result of this expenditure must be a directly oxidizing one; for with the beginning of treatment, even from the first bath, there is a diminution of cough and expectoration.

Nutritive changes manifest themselves later, and may result directly from a stimulus to the pulmonary surface with an increased blood-supply to the lungs, or later from an increase of red blood-corpuscles and hæmoglobin in the general circulation. Patients uniformly present an appearance of being rested and refreshed when subjected to the influence of the electric arc bath. By its use circulatory changes are established with a uniform regulation of the heart's action. Temperature is temporarily augmented; activity of the skin increased; respiration notably improved, fuller, and slower, with gradually increasing respiratory capacity; irritability of bronchial mucous membrane promptly lessened, as evidenced by diminution of cough and expectoration. The stimulus imparted results in a more active dissimilation, as evidenced by increased urea and CO_2 elimination, but is balanced by an equal assimilation, shown by improved nutrition and function. The increase of red blood-corpuscles and hæmoglobin is established about the fifteenth day. After improvement has been established in several cases of phthisis by the action of the electric arc, independent of all other means, the treatment was supplemented by the use of the franklinic current, positive insulation, convective discharge with the crown electrode for from ten to fifteen minutes, and with the brush electrode to the entire general surface (nutritional), localized to the chest-walls, front and back (lungs). The principle involved is the same as in the administration of a cold douche after a hot bath; *i.e.*, to stimulate the electromotive forces of the relaxed skin or tone it up. In the electric arc probably no panacea for phthisis is to be found, but the uniform results obtained in a series of cases suggest its probable value in curative cases. Margaret A. Cleaves (N. Y. Med. Jour., Jan. 28, '99).

EPIDIDYMITIS.

Twenty cases of epididymitis successfully treated by the local application of guaiacol, 1 cubic centimetre of the drug being painted over the cord, and 1 cubic centimetre dissolved in 2 cubic centimetres of glycerin over the inflamed testicle. It is usually necessary to renew the application every day for several days. J. Clifford Perry (Medical Record, Jan. 7, '99).

FAVUS.

Diagnosis.—The diagnosis of favus should be made with the microscope. A portion of the sulphur-yellow crust and

a few hairs are placed on a glass slide, a few drops of liquor potassæ added and allowed to act for five minutes. The specimen is then dried with blotting-paper, and a few drops of glycerin are placed upon it, and examination is made with a power of from 450 to 900 diameters. The crust will be found composed of a net-work of mycelial threads, segmented at short intervals. The conidia are small, round bodies from 2.5 to 5 microns in diameter. Tricophyton megalosporon contains spores from 4 to 6 microns in diameter. T. microsporon is found in the interior of the hair. In ringworm the yellowish crust is made up of pus-corpuscles, disintegrated epithelial cells, and a few fungi.

Treatment.—In the treatment of favus the first important procedure is to clip the hair short. This should be done in the dispensary with clippers kept in a lysol solution, and serves the double purpose of exposing the diseased area and keeping the patients from the general barber-shops. After this the scalp is oiled, in order to soften the crusts, which are removed with tincture of green soap. Epilation is then commenced and carried out by a member of the patient's family. When the hair has been well removed from the reddened area, chrysarobin, dissolved in a 10-per-cent. collodion solution, is applied with a stiff brush. If there is much inflammatory reaction, the chrysarobin should be discontinued and a 10-per-cent. ointment of mercury ammoniate substituted. A. D. Mayer (Med. News, Dec. 10, '98).

FOOT-AND-MOUTH DISEASE.

Foot-and-mouth disease must be combated by better care of the stock. The custom of confining animals for purposes of rapid fattening should be abolished. The disease is less common when the cattle have the range of the meadow. As soon as an outbreak occurs, the animals should be quarantined in a distant stable, and thorough disinfection instituted. Siegel (Deut. med. Woch., Dec. 1, '98).

FURUNCLE.

Treatment. — Furuncles are always caused by infection from the surface, usually along the hair-follicles. In order to prevent general furunculosis, the surface of the boil should be washed with a 1 to 500 solution of mercuric chloride, the washing being extended for some distance around the primary abscess. The application should be made at least twice daily, and, after rupture or incision, the abscess-cavity should be carefully irrigated with a weak mercuric-chloride solution. H. H. Stoner (Med. News, Jan. 14, '99).

GONORRHŒA IN THE FEMALE.

Symptoms.—One of the first symptoms of gonorrhœa noticed in the female is general lassitude, with loss of appetite and absence of the feeling of well-being of a healthy person. This will be soon followed by darting pains through the pelvis, back, thighs, and groins. In from twelve to twenty-four hours a feeling of fullness, accompanied by heat in the pudendum, is noticed, with a dryness of the mucous membrane; and, if the urethra has been primarily infected, there will be frequency of urination, with slight smarting pain. All of these symptoms become rapidly intensified and the dry membranes become moist and are soon bathed in a thick creamy pus of a most characteristic odor. The parts are red and often of a dusky hue from venous stasis. There is at this time, usually, a slight rise in temperature and pulse, and the patient feels

generally wretched, walking, sitting, or standing being uncomfortable. The lymphatic glands in the groin and broad ligaments become affected, swelled and painful, with backache, bearing-down, and general pelvic tenesmus. For the next two or three days all these symptoms increase, and the discharge is larger in amount and the disease is at its height; but in many patients all these will not cause confinement to bed nor the calling of a physician. All of the symptoms may exist and the infection not be due to gonococci, and the diagnosis can only be made certain with the aid of the microscope.

Most of the cases seen are, however, chronic in character, and the picture usually presented is the following:—

The labia are likely to be stuck together by a thick, tenacious discharge, and on separating them nearly a complete ring of red and inflamed points will be discovered at and about the introitus, composed of the mouths of the infected glands about the vestibule, the vulvo-vaginal glands and the glands of Skene, together with the meatus urinarius. From Bartholin's glands one may or one may not be enabled to squeeze a drop of pus, but the evidence is always present in these ducts at the entrance to the vagina, and this condition does not exist as a result of any other infection. Irritation of the bladder may or may not be present.

The vagina itself will be found studded with inflamed points marking the location of the infected mucous glands. A history of dyspareunia will usually be given. The cervix is generally swelled and congested, with more or less erosion, especially if there has been an old laceration, and from the canal will be seen coming abundant, thick, muco-purulent discharge. The uterus is large and tender and likewise the tubes and ovaries.

Sterility usually accompanies the foregoing signs and symptoms. Marked anæmia, with various neuroses, are almost constant sequels of severe and neglected gonorrhœa.

Backache; bearing-down, with inability to stand or walk; headaches, digestive disturbances, are almost sure to follow. L. G. Baldwin (Phila. Med. Jour., Dec. 31, '98).

HYDROCHLORIC ACID IN SCIATICA.

Hydrochloric acid applied over the course of the sciatic nerve or to the heels and feet, for the relief of pain in these parts in 26 cases. Sixteen had sciatica, which in most instances had defied every other treatment. Of these, 2 were completely cured, 11 were considerably relieved, and 3 were not improved. The remaining patients were suffering from intractable pain in the heels and plantar region, the sequelæ of acute rheumatism, many gonorrhœal. Of these 4 were quite cured, 1 was very much relieved, and 5 were not improved. The average number of applications was for all the cases 15. The strong acid of the British Pharmacopœia was painted on the skin at bed-time with a glass brush, in a series of lines about 2 or 3 inches long over the tender spots in the thigh and calf. When dry the limb was enveloped in cotton-wool loosely bandaged, and so left till the morning, when the patient was allowed to get up as usual. The acid may be applied every night on the skin, but it should be discontinued directly there is any sign of redness or irritation of the parts. R. A. Bayliss (Brit. Med. Jour., Nov. 19, '98).

INFLUENZA.

The January edition of the CYCLOPÆDIA states that Bressler gives only

7 1/2 grains of kryofin daily. It should read 7 1/2 grains of kryofin three or four times a day if needed.

LACTOPHENIN.

Lactophenin as an hypnotic may be given in doses of from 15 to 45 grains suspended in sweetened mucilage in the evenings one hour after eating. The writer has employed it in over 200 cases of insanity accompanied by insomnia, and concludes that it has an hypnotic action which is certain, rapid, intense, prolonged, and harmless. The sleep which it produces is deep, calm, and restorative, and lasts generally for four or nine hours. Its use is not followed by any unpleasant phenomena. The drug has no cumulative action. It may be safely used even when the patient's physical condition is weak. Like other hypnotics, it has failed to act in certain cases, and in some in which at first it was successful it has, after a time, entirely lost its power. A. Christiani (Il Manicomio Moderno, No. 2, '98).

LARYNGEAL TUBERCULOSIS.

Treatment.—In the treatment of laryngeal tuberculosis constitutional measures must not be lost sight of, and every effort should be made to increase the power of resistance of the patient. Removal to a dry climate of moderate elevation and equable temperature should be urged. The patient should live in the open air and sunlight as much as possible, and take an abundance of animal food, eggs, milk, and fresh vegetables. Suitable exercises should be insisted on, and when the opportunity occurs massage, carefully applied, will be found of value in improving the nutrition of the patient.

Cough can be generally controlled by insufflations of morphine, 1/4 grain, with 10 grains of powdered acacia, applied to the larynx with a powder-blower every four or six hours.

Night-sweats are relieved by 15-grain doses of camphoric acid taken an hour before bed-time, or, where insomnia is also present, by 10-grain doses of sulphonal in hot milk about three hours before bed-time. Diarrhœa may be checked by careful attention to diet and by 10-drop doses of aromatic sulphuric acid every two or three hours, combined with 1/2 drachm of paregoric if much pain is present. Dysphagia is usually relieved by the local application of cocaine, either in the form of a spray or with a brush, the 4-per-cent. solution being a useful strength. Wolfenden's method of feeding—the patient being placed in the Trendelenburg posture while he sucks liquid nourishment through a tube—will sometimes be found of service. In extreme cases rectal feeding will have to be employed until the larynx is improved by local treatment sufficiently to allow the passage of food over the epiglottis.

The patient's larynx having been cleansed by a spray of Dobell's solution, and a 4-per-cent. solution of cocaine having been applied to the affected area, the ulcers should be thoroughly rubbed every third or fourth day with a solution of lactic acid varying in strength from 20 per cent. to 80 per cent. The applications are best made with a laryngeal cotton-applicator.

Even in cases where the lung involvement is much advanced, it should be advocated, as, although a cure may not be expected, the relief to the patient is usually very great. P. S. Donnellan (Ther. Gaz., Nov. 15, '98).

LEAD POISONING IN NEWBORN INFANTS.

Certain secret remedies used in the

treatment of fissures of the nipple contain acetate of lead. In the cases recorded the remedy was known as the "Cosmétique X," and it was observed that when this was applied to the breast the infant soon began to suffer from colic and constipation. The vomiting of lead poisoning was probably represented by regurgitations, which were not distinguishable from those met with in overfed infants. It was quite evident that the infants were the subjects of lead poisoning. Roussel (Loire Médicale, Dec. 15, '98).

LUPUS.

Treatment.—A great number of cases of lupus can be cured by radical excision, and with good cosmetic results. This mode of treatment should be undertaken at the earliest possible moment, for then only can the best results be hoped for. The dissection can be carried out under local anæsthesia, and it is of the greatest importance that the incision should be made in healthy tissue, at least 1 to 2 centimetres from the infected area. If there is any doubt as to how far the tissues are infected, it is well to employ the tuberculin-test. The plastic operation, to cover in the defect, should be carried out preferably on the Krause plan. A. Buschke (Berliner klin. Woch., Nov. 21, '98).

MIDDLE-EAR CATARRH, CHRONIC.

Chronic middle-ear catarrh, leading ultimately to hopeless sclerosis, may be dependent on general systemic states, particularly on arteriosclerosis. In five cases there existed evidence of digestive and circulatory disturbances, and treatment directed toward these proved of great value in two of them. One, a college-student, was made to work for six weeks on a farm. He gained in weight and vigor, and then, under catheterization, his hearing improved greatly and the tinnitus disappeared. Cases that have passed into the stage of sclerosis are probably not amenable to general treatment. Heermann (Deut. med. Woch., Dec. 8, '98).

MILK: ABSORPTION *vs.* DIGESTION.

Physiologically it is well recognized that the stomach in health does not ordinarily secrete gastric juice except under the stimulus of food. At a varying period after the taking of food, the time being dependent upon the amount and quality of the food taken and the powers of digestion, the stomach has finished its task, absorption of certain elements has taken place, some portions have been passed on to the intestine for further action, and the stomach is found to be empty, awaiting further cause for activity. At this period the stomach losses its turgid-red color, becomes paler and more or less flaccid, and its surface is bathed with more or less of an alkaline secretion, this constituting the alkaline tide. This occurs at varying periods of time after the ingestion of food; it may occur in an hour or so after a very small amount of very digestible food, or not for four, five, or even many hours after a very heavy or unusually indigestible meal, or with very weak or sluggish digestion. This should be constantly borne in mind in connection with the plan of treatment to be proposed, otherwise failure is sure to result. It is only when this alkaline tide is perfectly secured and utilized that the real beneficial results of this plan can be secured.

The idea is to introduce milk, pure and alone, and at the body-temperature, just after this alkaline tide has set in, or during its continuance, and to avoid food or any substance which could call forth gas-

tric secretion until after its absorption has been fully accomplished. It is believed, then, that the warm alkaline milk is absorbed directly by the lacteals and carried at once by the thoracic duct into the subclavian vein, and so reaches the blood and is acted upon in the lungs before it is submitted to liver-action.

The milk should be made of the body-temperature, by heating it carefully in hot water; if boiled so as to produce the slightest scum on the surface, and thus is taken, it acts prejudicially by exciting gastric action, and the aim of the process is defeated. It is often desirable to warm milk by the addition of hot water, as absorption is even more readily effected thus than when the milk is too rich and thick.

When prescribing milk according to the plan proposed, pure, warm, and alone one hour before meals, patients often object that it would destroy what appetite they have. But it is an interesting fact, based on physiological reasons, that when thus taken successfully it not only does not impair the appetite, but greatly increases it.

If a particle of food, as a cracker, is taken with it, or if for some reason or fault it does not act exactly right, then the appetite is impaired; naturally so, because there is a process of digestion which takes longer than the hour, or, rather, half-hour, required for its absorption, and the stomach cannot be ready for fresh food again so soon.

A preferable time for administering milk, especially in the poorly-nourished females, is early in the morning, one hour before breakfast, the directions being that the patient shall lie still for a quarter of an hour thereafter; it is often found then that instead of rising fatigued, with no appetite for breakfast, the patient gains in strength and enters on the day with a vigor quite unknown before. Weak females should always lie down in a darkened room for a half-hour nap after taking the milk at 12 and 5 o'clock. The soporific qualities of warm milk at bed-time or in the night are sometimes remarkable. L. Duncan Bulkley (Journal of the Amer. Med. Assoc., Dec. 17, '98).

MURPHY'S BUTTON, A SUBSTITUTE FOR.

A substitute for Murphy's button consists of but two blades of a forceps both of the same size and structure, except that one is female, and the other male, for disarticulation and sterilization. The blades, $^1/_8$ inch in diameter, present incomplete circles, with an inner diameter of $^3/_4$ inch and a $^1/_8$ inch opening. When fixed in position the instrument is locked and fixed or clasped as any artery-forceps. In using it the abdomen is opened and the diseased and injured portion of the intestine removed. Then, about $1\,^1/_3$ inches from the cut margin opposite the mesenteric attachment, a puncture is made with an ordinary aspirating needle, the opening being enlarged to $^1/_5$ inch. Either the male or female blade is taken, with the handle down, the end of the incomplete circular end of the blade inserted into the opening and the incomplete circular blade placed inside of the gut. The same procedure is followed with the other blade in the other end of the gut. The ends of the gut are invaginated upon the rim of the forceps, which is then locked and clasped. All around the gut a row of Lambert sutures is inserted and tied. The forceps is unclasped until it no longer holds and by a circular movement the blades are released. Stitching up fenestrums in the mesentery and the puncture-holes completes the operation.

Louis Y. Genella (N. Y. Med. Jour., Jan. 7, '99).

NIGHTMARE, CAUSES OF.

Nasal obstruction may give rise to nightmare, and, after the obstruction has been removed and the nasal chambers restored to their normal condition, the disagreeable symptom will disappear.

Bosworth states that "enlarged tonsils produce the nightmare so frequently observed in children," and he adds that "it arises from the fact that the entrance of air to the lungs is slightly impeded during sleep; there follows a slowly, but surely, increasing lack of proper oxygenation of the blood, resulting in an increase of the '*besoin de respirer*' until it culminates in a sense of oppression or suffocation, under the influence of which the child awakes alarmed and terrified." This author also mentions that the nightmare produced by undigested food occurs but once during the night, while that produced by enlarged tonsils may occur several times during the night.

Nightmare in children is commonly caused by enlargement of the pharyngeal tonsil. H. Griffin (Phila. Med. Jour., Dec. 31, '98).

ORTHOFORM FOR CRACKED NIPPLES AND TOOTHACHE.

Forty cases of cracked nipples at the Charité Hospital were dressed with orthoform, which brought about complete anæsthesia during suckling and kept the cracks aseptic. The infant was put to the breast a quarter of an hour afterward, and sucked eagerly, as orthoform has neither taste nor smell. The anæsthesia persists for some time. Strong alcoholic solution of orthoform dropped into the cracks is better than the orthoform powder alone. Maygrier and R. Blondel (Lancet, Nov. 19, '98).

The raging pain of an exposed pulp in a carious tooth was arrested at once with an application of orthoform, dissolved in warm alcohol, on cotton. There was no further pain for two days, even in eating, when the tampon was renewed, as at first, with the same success. Hildebrandt (Deut. med. Woch., Dec. 1, '98).

PREMATURE LABOR, INDUCTION OF.

A new method of inducing premature labor consists in introducing the index finger into the cervical canal, previously dilated in primiparæ, and then passing beyond the internal orifice. The inferior portion of the membrane is then gently torn with the hooked finger, and by the guidance of the finger a strip of gauze impregnated with glycerolate of ichthyol is inserted, which should be placed between the ruptured membrane and the lower segment of the uterus. This manœuvre can be executed by the drawing of the uterus by means of a forceps applied to the posterior lip of the cervix. The vaginal canal is then packed with sterilized gauze. Labor usually occurs in about ten hours. Spinelli (Gazetta med. Lombarda, Dec. 12, '98).

PROTONUCLEIN.

In acute catarrhal affections, protonuclein has been prescribed with happy results. The proper dose for such cases —in the adult—is from 6 to 12 grains repeated every two to three hours. The treatment should be continued with smaller doses for a few days after the disease has disappeared, to prevent a relapse.

Protonuclein is especially useful in the treatment of broncho-pneumonia in infants and children. In these cases from 2 to 4 grains are given according

to age, repeated every two or three hours. Recovery takes place in from three to five days. Protonuclein also has quite marked tonic effects, which are particularly noticeable when given in cases of general debility resulting from advanced age. As a tonic it should be given in from 6- to 9-grain doses after meals and at bed-time. In neurasthenic cases it is of benefit, restoring a normal tone to the nervous system. G. W. Sherman (Canadian Jour. of Med. and Surg., Jan., '99).

PURULENT OPHTHALMIA IN CHILDREN.

In purulent ophthalmia in infants, treated with protargol and argonin, these newer salts of silver, there has been less ulceration of the cornea, with iris-protrusion and imprisonment; the gonococci have disappeared in from two to four weeks, or more quickly than by the older method; there has been an earlier disappearance of the secretion and control of the inflammation; the restoration of the injured cornea and conjunctiva has been more prompt; and the patient has suffered much less. The most effective strength for the argonin solution is 3 per cent., and the solution is best made by placing in a flask 10 parts of cold water, adding 1 part of argonin, and shaking vigorously, after which sufficient boiling water is added to make up the desired strength. It is then strained through gauze. In making the solution of protargol, it is best to mix the salt with a little water and glycerin to a paste, and then add sufficient lukewarm water to make a 0.25-per-cent. to 2-per-cent. solution. The plan of treatment is as follows: If only one eye be affected, seal up the healthy one, taking care to inspect it every second day. Ice-pledgets are to be continuously applied to the inflamed eye, night and day, until there is positive evidence of diminution in the secretion—a period varying from a few days to two or three weeks. Meanwhile the eyeball and conjunctival sac are very frequently irrigated with a saturated solution of boric acid.

With a large pipette, a 0.5-per-cent. or 1-per-cent. solution of protargol is carried rather forcibly over the whole eye four or more times daily until the secretion diminishes, when a 2-per-cent. solution may be used at longer intervals. The disease should be brought under control by such treatment in the course of two or three weeks. The secretion should be examined for gonococci on alternate days, and the eye not considered safe until none of these organisms has been found for a full week. Edward S. Peck (Phila. Med. Jour., Dec. 17, '98).

SCARLET FEVER.

Diagnosis.—A clinical phenomenon in scarlatina in the most characteristic instances consists in a paresis of the extremities, the patient complaining that he cannot move the hands or feet. This degree of disturbance, however, is very exceptional. Most frequently there is only a numbness of the hands, with sensations of tingling or formication. Numbness may be absent, and then the patient experiences pricking sensations localized in the extremities of the fingers or in the palm of the hands. Disturbances in the feet are of rarer occurrence; they may be noticed alone or in conjunction with those described in the hands.

This sign appears during the period of eruption, exceptionally before it. Its duration is very variable; it may be experienced for only a few minutes, and not be felt again. In the majority of cases it is more durable, appearing several hours or a day after the beginning

of the eruption and persisting for two or three days ordinarily with interruptions. It may even be delayed in its appearance until the third, fourth, or fifth day of the eruption. It is accompanied by no painful sensation. Some patients experience this disturbance only when they wish to use the hands; others at the moment of leaving the cold bath or when the hands are dipped into water.

This sign is very constant, but has not been encountered in other eruptive diseases. Meyer (Presse Médicale, p. 119, '98).

SOMATOSE IN PEDIATRIC PRACTICE.

The solution of somatose in water has a reddish-brown color, no odor, and tastes somewhat like glue. Milk or soup, or 1 or 2 drops of tincture of orange-peel or cinamon added to the solution of somatose in water, practically cover the taste. Somatose is very useful in the treatment of anæmia, chronic diarrhœa, and malnutrition after acute febrile diseases. The dose is $^1/_2$ teaspoonful twice daily for a child up to three years of age; 1 teaspoonful three times daily for a child three to five years old; 2 teaspoonfuls twice daily for a child five to eight years old; the same dose thrice daily for older children. L. Freyberger (Treatment, Jan. 12, '99).

Somatose was given to thirty-seven children of from one month to nine years of age. The following conclusions were reached:—

1. Somatose is an excellent food, and is readily assimilated.

2. It must be perfectly dissolved, is practically tasteless and odorless, and is readily taken by children.

3. It does not produce diarrhœa, and may therefore be given to children suffering from enteric catarrh.

4. It has no effect on rickets. Landau (Heilkunde, pt. 12, '98).

SPINA BIFIDA, RADICAL CURE OF.

In all personal cases use has been made of (*a*) flaps of as much of the skin as was necessary, and (*b*) flaps of mesoblastic tissue: muscle, fascia, and, in a few instances, bone, this last obtained by including in the mesoblastic flaps the extremities of the abortive vertebral lamina.

1. In cases in which, after freeing the sac and its neck, it has been opened, its interior found free from nerve-cords, it has been opened, its interior found free from nerve-cords, it has simply been cut away, its neck closed, and the mesoblastic flaps and subsequently the skin-flaps sutured over the stumps.

The wound is dressed with some aseptic or antiseptic material, secured by strapping, collodion, or bandage.

For a week the child is nursed night and day prone over the nurse's knee, and the back is kept bare of all clothing in order that any accidental soiling of the dressing by urine or feces may be at once detected and rectified. Indeed it may fairly be said that in cases of spina bifida situated in the lower lumbar region, the success of the operation is as much in the nurse's as in the surgeon's hands.

No precautions are taken to prevent escape of the fluid while the sac is being removed and its neck closed. In cases of hydrocephalus complicating spina bifida, the child's head is purposely elevated to permit of escape of a certain amount of fluid before closing the neck of the sac.

In a few cases of small sac a ligature is sufficient. In larger sacs rows of catgut sutures should be employed.

In most cases the flaps have been left long. The redundant margins of the

mesoblastic flaps have been, by means of several rows of catgut sutures, piled up into a median ridge curled inward on the stump of the neck much as the cut margins of intestine are piled up against each other, and curled inward by the Lembert suture in circular enterectomy.

The redundant margins of the flaps have been similarly piled up into a ridge, but curled outward.

In cases in which the sac on being freed and opened is found to contain nerve-cords, flaps of skin and mesoblastic tissues are dissected up in the usual way. The sac is freed and opened. Such portions of it as are free from nerve-tissue are excised. The remainder is "cut into ribbons" by incisions made from the interior, parallel with the nerve-cords incorporated with it, and thoroughly roughened with the point of knife. The "slashed" and roughened sac is then placed in the patient's spinal canal, over which the flaps are sutured in the usual way.

There remain certain other measures the value of which are at present being tested. These measures are: (*a*) the establishing of a drainage-channel from the spinal canal (at the site of, and during the operation for, spina bifida) into either the peritoneal cavity or the cellular subcutaneous tissue, or both; (*b*) drainage of the cerebral ventricles, either externally or into the meninges; (*c*) application of various solutions to the interior of the cerebral ventricles. J. H. Nicoll (Pediatrics, Jan. 15, '99).

STYPTICIN.

Twenty-four cases of metrorrhagia have been treated with stypticin in the Innsbruck Gynæcological Clinic. Stypticin is hydrochloride of cotarnine, the base of the opium alkaloid narcotine; it is a yellow, inodorous, bitter powder, and is usually given in $^3/_4$-grain doses five to eight times a day. In severe cases 3 grains or even more can be safely administered. When taken by the mouth eructations are apt to follow, so that intramuscular injections of a 10-per-cent. solution into the nates are to be preferred. In the twenty-four cases here referred to a negative result is recorded in one only, and an almost negative one in another. The least result was obtained in uncomplicated hæmorrhagic endometritis; when, however, the stypticin was used for bleeding which had returned after curetting, its action was much more marked. When the hæmorrhage arose from malposition of the uterus, from perimetritis or parametritis, or from inflammation of the appendages, stypticin checked it most signally. In menorrhagia and dysmenorrhœa the results were equally good, as also in hæmorrhage without obvious anatomical cause. In a case of fibroids, however, no good was done. Only one case of hæmorrhage in pregnancy was treated; this was one of threatened abortion from retroflexion. Seven doses of $^3/_4$ grain stopped the hæmorrhage and averted the abortion. None of the patients were confined to bed during the treatment, unless their diseases required it. Braitenberg (Wiener med. Presse, No. 35, '98).

SYPHILIS AND DIPHTHERIA.

Differential Diagnosis.—It seems almost impossible to mistake the lesions of syphilis of the oro-pharynx for those of diphtheria, but in a smaller number of cases, especially when the tonsils are involved, errors in diagnosis occur. In both secondary and tertiary syphilis, especially when no skin-lesions are discoverable, and when the patient will give no history of infection, so-called ulcers

on the soft palate and tonsils are liable to be diagnosticated as diphtheria, especially during an epidemic of the latter disease. These patches of apparent white membrane are usually mucous plaques, and consist of a white, opaline centre of necrosed epithelium surrounded by an inflammatory zone.

The specific ulcer that is common on the tonsils, and less so on the pharyngeal walls, is more frequently mistaken for diphtheria than any other lesion of syphilis, on account of the grayish-white appearance of the *débris* covering the ulcer and its irregular form, especially when limited to the tonsillar tissue; and, when this is removed, bleeding occurs; but, unlike that resulting from diphtheria, it arises from granulation-tissue's covering its floor. These ulcers may be superficial, deep, phagedenic, or gummatous, the deep and gummatous forms especially resembling diphtheria; they may also be single or multiple, and, when several are observed in proximity, they coalesce, covering the entire tonsil and extending to the velum and the soft palate, and resembling most strikingly a true diphtheritic patch.

The local symptoms analogous to those of diphtheria are both subjective and objective. The syphilitic pseudo-membrane is due to infection of the ulcer by streptococci and staphylococci, and is not a true membrane, but *débris* with fibrin-elements and blood-cells. In some cases of diphtheria, when membrane is present in considerable amount, no complaint is made of sore throat. In syphilis there is usually found absence of pain in the majority of cases and few subjective symptoms; even on inspection there may be no sign of the future ulcer except, if the parts be irritated with a probe, sharply demarkated areas of congestion will become visible. In tertiary ulcers there is no pain of any account, while in the secondary changes pain on swallowing is only noticed when the epithelium is denuded and hot drinks or highly-seasoned food is used. The temperature is commonly elevated in extensive syphilitic throat-lesions, as it always is in diphtheria, and malaise, anorexia, and the symptom-complex common to nearly all acute throat-affections make their appearance. In syphilis the temperature is not so high as in diphtheria, the patches on the pharynx and tonsil are not as elevated, the adjacent tissues are not so violently inflamed, and we usually find some concomitant symptom, such as the dermal eruption. In a number of cases of diphtheria it is common to find a somewhat symmetrical arrangement of the membrane; this, however, is more marked in syphilis, and the so-called "Dutch garden" symmetry of syphilitic ulcers is rarely similated. The crucial test, however, is the presence of the bacillus characteristic of diphtheria. Lewis S. Somers (Phila. Med. Jour., Jan. 28, '99).

TANNOFORM.

Tannoform is obtained by the precipitation of an aqueous mixture of tannin and formaldehyde with hydrochloric acid.

Tannoform has shown itself to be one of the best local remedies for decubitus, diabetic gangrene, and the many varieties of weeping, chronic, and acute eczemas. In all these cases it acts beneficially through its generally-admitted desiccating properties and its power of arresting secretion.

As a means of combating excessive secretion of sweat on the hands and feet, in the armpits, and in other parts of the body it stands without a rival.

In some cases a single application suf-

fices to reduce the formation of sweat to a desirable measure, and to suppress the disagreeable odor.

Sweating feet are generally best treated with tannoform dusting-powder, which is a mixture of 1 part of tannoform and 2 parts of Venetian talc. Unmixed tannoform should only be used in very grave cases, when the sole of the foot and the parts between the toes should be briskly rubbed with it. The same applies to the formation of sweat in the armpits, and at other parts of the body. In the cases of eczema and decubitus a 10-per-cent. tannoform ointment has often been found to yield better results than pure tannoform. L. Hesse (Australasian Jour. Phar., Oct. 20, '98).

THYRO-IODINE IN THE TREATMENT OF DELAYED UNION OF FRACTURES.

Thyro-iodine has been successfully used in the treatment of delayed union of fractures in two cases. The first was a woman, aged 24 years, who had sustained a compound fracture of the lower third of the femur. A suppurating false joint formed, and, three months after the reception of the injury, the administration of thyro-iodine was instituted. On the fifth day the patient could walk with the aid of a silicate splint, and at the time of the report recovery was complete, a marked growth of bone having taken place. The second patient was a woman who had suffered from myxœdema following extirpation of the thyroid gland. This was relieved by the administration of thyroid gland. Two months later she fractured her leg. Thyro-iodine was given during the entire time of observation and a good result followed. Although the patient had no thyroid gland, the thyroid gland was assimilated with ease. Quénu (Phila. Med. Jour., Dec. 31, '98).

TONSILLITIS.

Treatment.—If quinsy is seen within forty-eight hours after the first onset of the disease it can, in the majority of cases, be aborted to such an extent that suppuration will not take place. When first seen, the following treatment may be given unless there are contra-indications for its use: 5 or 10 grains each of calomel and salol followed in six hours by a saline cathartic. After the alimentary canal is thoroughly emptied, lactophenin, given in combination with protonuclein, is one of the best remedies for relieving the discomfort and pain, and aborting or greatly ameliorating the progress of the inflammatory process. For an adult, 7 $^1/_2$ to 10 grains of lactophenin and 3 to 5 grains of protonuclein are given in a powder every two or four hours until all pain is relieved and the temperature becomes normal. In addition to this, lithia-water is given freely (5 grains in a glass of water four times a day) for several months after the patient has recovered from the acute inflammatory trouble.

The local treatment amounts to very little; a hot alkaline gargle containing 25 per cent. of pasteurin, listerin, or hydrogen peroxide, used frequently, keeps the mouth clean and sweet and has a happy psychological effect. If the tonsils are enlarged, and follicles blocked up with secretory and inflammatory products, they may be cleaned out with probe and well-directed spray of antiseptic solution from atomizer with tip that throws the spray laterally. If deglutition is very painful, nothing affords such great relief as an application of 10 per cent. each (in aqueous solution) of cocaine and resorcin, applied by means

of camel's-hair brush or cotton-covered probe, to the pillars of the fauces. This can be repeated as necessary, though never oftener than every two hours, even in aggravated cases. If tension is great it is best relieved by puncturing the tense sheath separating the tonsil from the peritonsillar areolar tissue. The point selected for this purpose is near the junction of the anterior and posterior pillars of the fauces. J. A. Stucky (Memphis Lancet, Jan., '99).

TOXÆMIA.

Treatment.—In cases of toxæmia the rational treatment is to remove by venesection as much of the toxic blood as possible, and replace it by a normal salt solution. One vein may be used for both purposes, or one may be bled while one on the opposite arm is infused.

This simultaneous depletion and infusion makes it possible to withdraw much more of the poisoned blood without fear of shock. It would seem proper and justifiable in a case of septicæmia in the adult to infuse 7000 cubic centimetres or more of salt solution. No harm would be caused if it were injected slowly, and at two or more sittings. Small amounts—a quart or so—will be utterly useless in many cases. The curative effect is probably due both to the dilution of the poison and its rapid elimination by the excretory organs, brought about by the high artificial vascular tension.

Method of Infusion.—The subcutaneous and submammary methods are probably adequate for cases that are not urgent, but for others the direct infusion into a blood-vessel is much more certain and immediate in its results. The intravenous method is not without danger, on account of the possibility of air and foreign-body emboli, and a few cases of death from such cases have been reported. This led Dr. Halsted, in 1884, to advocate centripetal arterial transfusion as being devoid of all danger. The radial artery can be more easily exposed than a superficial vein in many cases. Hugh H. Young (Canada Lancet, Jan., '99).

TUBERCULOSIS OF THE MAMMARY GLAND.

There are two characteristic varieties of mammary tuberculosis: the disseminated nodular form and the confluent. The nodular variety is characterized by the development of single or multiple hard nodules, only slightly painful and at first non-adherent to the skin. The process is exceedingly chronic, and only after the lapse of several years do the nodules break down and form suppurating fistulas. The confluent variety is characterized by a more acute onset, greater pain, and rapid enlargement of the breast. It is more common than the nodular variety. Retraction of the nipple has been reported twice. If the disease extends to the axillary glands it pursues a much more rapid course than in the mammary gland. Occasionally the tuberculous process leads to the formation of a cold abscess; but this is rare, and never occurs before puberty. In many cases it is impossible to establish a diagnosis of tuberculosis, but when the disease is far advanced or there are foci of the same trouble in other organs, the diagnosis is comparatively easy. The treatment of primary mammary tuberculosis consists in complete removal of the breast and axillary glands. In the rare cases of cold abscesses these may be aspired and iodoform emulsion injected. A. E. Halstead and E. R. le Count (Annals of Surgery, Dec., '98).

UMBILICAL CORD, TREATMENT OF. The following method of treating the stump of the umbilical cord has been employed successfully in two hundred cases. It consists in wrapping the stump of the cord in cotton soaked with alcohol. When it is possible to obtain it, pure alcohol should be employed. A thin layer of cotton is placed over the whole. The advantages claimed for this method are the fact that the cord dries absolutely in an aseptic condition, that suppuration does not occur, and that the cord promptly separates. Budberg (Centralb. f. Gynäk., No. 47, '98).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

A Case of Probable Miliary Tuberculosis. By A. A. Eshner, M.D., Philadelphia, 1898.——A Case of Obscure Diagnosis, Exhibiting Hysteric Stigmata. By A. A. Eshner, M.D., Philadelphia, 1897.——On Resection of the Gasserian Ganglion, with a Pathological Report of Seven Ganglia. By W. W. Keen, M.D., LL.D., and W. G. Spiller, M.D., Philadelphia, 1898.——Removal of an Angioma of the Liver by Elastic Constriction External to the Abdominal Cavity, with a Table of 59 Cases of Operation for Hepatic Tumors. By W. W. Keen, M.D., Philadelphia, 1897.——The Advantages of the Trendelenburg Posture During all Operations Involving Directly or Indirectly the Cavities of the Mouth, Nose and the Trachea, with a Report of Two Cases of Epithelioma and Sarcoma of the Tonsil. By W. W. Keen, M.D., Philadelphia, 1897.——Ergot Aseptic. By E. M. Houghton, Ph.C., M.D., Detroit, Mich., 1898.——The Pharmacologic Assay of the Heart Tonics. By E. M. Houghton, M.D., Detroit, 1898.——Vitality: An Appeal, An Apology, and a Challenge. By Lionel S. Beale, London, Eng., 1898.——Schede's Operation for an Old Empyema; Cathcart's Drainage; Recovery. W. W. Keen, M.D., Philadelphia, 1898.——Esophagotomy for Jackstone in the Upper Œsophagus; Death from Exhaustion. By W. W. Keen, M.D., Philadelphia, 1898.——The Advantages of a Permanent Adominal Anus, and of Total Closure of the Sacral End of the Rectum, in Operations for Cancer of the Rectum. By W. W. Keen, M.D., Philadelphia, 1898.——Auenbrugger and Lænnec, the Discoverers of Percussion and Ausculation. By Edward O. Otis, M.D., Boston, 1898.——Conservation of the Ovaries. By B. Sherwood-Dunn, M.D., 1898.——The Prevalence of Herpes Zoster. By J. Abbott Cantrell, M.D., Philadelphia, 1898.——The Conservative Treatment of Fibroid Tumors by Myomectomy. By Charles P. Noble, M.D., Philadelphia, 1898.——The Conservative Treatment of Pelvic Suppuration of Puerperal Origin. By Charles P. Noble, M.D., Philadelphia, 1898.——Ague or Intermittent Fever. By Mathew D. O'Connell, M.D., Calcutta, India, 1897.——Remarks Upon the Value of Uranium Nitrate in the Control of Glycosuria. By C. Hubert Bond, D.Sc., M.D., Bexley, Eng., 1898.——Report of a Death following immediately an Operation for Nasopharyngeal Adenoids under Chloroform, with Remarks on Chloroform Anæsthesia in this Operation. By F. W. Hinkel, A.M., M.D., 1898.——A Case of Quinine Amaurosis. By James Moores Ball, A.M., M.D., St. Louis, 1898.——Some Observations of General Interest Regarding the Course and Management of Cataract. By J. H. Woodward, B.S., M.D., New York, 1898.——The Treatment of Puerperal Infection—Preventative and Curative. By F. A. L. Lockhart, M.B., C.M., Montreal, Canada, 1897.

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NEURASTHENIA.

Symptoms. — T. Benda[1] states that neurasthenic persons sometimes experience peculiar attacks resembling fainting-spells, with extreme weakness, pallor, vertigo, cold perspiration, weakness and trembling in the knees, and a sense of heaviness in the head. He has seen one patient thus affected every afternoon toward night. In many persons hunger accompanies the attacks, and, assuming that they are due to exhaustion from

[1] Deutsche med. Woch., Mar. 31, '98.

lack of food, combined with autointoxication from food in the intestines which the neurasthenic stomach has hastily passed along in a more or less undigested condition, he finds that he can cure them by having the patient eat something, and prevent them altogether by small, frequent meals.

Of two cases of post-operative neurasthenia reported by S. A. Lord,[2] the first had undergone a ventrofixation to relieve pain in the back and in the left hip and thigh. The pain disappeared, but there resulted gnawing, stretching, and tugging sensations in the scar. The patient developed severe dizziness, beginning with a sensation as of a blow on the head, and followed by a fall. At other times the primary symptom was a feeling as of a great wave coming from the stomach and then spreading all over the patient. There was nausea, feelings of intense oppression and suffocation, and disturbed sleep. In the second case there developed, after a gynæcological examination, odd ideas regarding the presumed entrance of a pin into the patient's head and the existence of a clot on her brain. These were closely associated with various peculiar and more or less exactly localized cephalic sensations of pressure and the like. The expression of the face showed a condition of hopelessness and unwillingness to admit improvement in her condition.

Dercum[3] regards neurasthenia as a fatigue-neurosis. The symptoms always present the characteristics of weakness and irritability, which are expressive of fatigue. Fatigue-sensations, when exaggerated, become painful and are described by the patient as pains and aches. It is frequently headache, almost as frequently backache, or the ache may be referred to leg or arm. These aches are primary symptoms and associated with them are often secondary symptoms. Thus, headache may be accompanied by a sense of pressure or of fullness, lightness, or distension. These are not necessary parts of neurasthenic headache and may not be present. With backache there may be associated hyperæsthesia or spinal tenderness; with achings referred to the limbs may be associated throbbings and tremulous feelings or curious paræsthesiæ, such as numbness or prickling or velvety sensations. Among the most common visual symptoms is inability to read for more than a few minutes at a time; if the patient persists, the letters become blurred and the effort gives rise to pain. Muscular weakness is so pronounced a symptom that it was constituted by Charcot one of his fundamental symptoms, and is frequently associated with tremor. Regarding digestion, the primary symptom is enfeebled and delayed digestion, associated with atonic constipation. Coldness of the extremities and feebleness of the pulse are primary symptoms of general weakness expressed by the circulation. Tachycardia, various heart-murmurs, and flushing of the face or of other parts of the body may be among the secondary symptoms. The first psychical symptom is the diminution in the capacity for study or intellectual effort. If the task be persisted in, fatigue-sensations become pronounced, and secondary symptoms—such as sensations of constriction, giddiness, even vertigo—make their appearance. Often secondary symptoms are quite prominent, but they should not throw the physician off his guard. If the case be one of neurasthenia, some of the primary symptoms can always be found.

In examining a large number of pa-

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[2] Boston Med. and Surg. Jour., June 23, '98.

[3] Jour. Amer. Med. Assoc., Apr. 16, '98.

tients suffering from neurasthenia S. Erben[4] has noticed that the customary increase in the rapidity of the pulse that follows the movements of the body in these cases does not occur if the patients bend far forward. After continuing its previous rhythm for from 4 to 15 beats, there is a sudden retardation of the pulse, which continues for about 6 beats. After this, the pulse gradually reaches its former rapidity. Ortner also pointed out to him that the same result ensued if the patients bent their heads backward. Erben explains this phenomenon through the venous congestion of the vagus-centre, giving rise to slight irritation of that centre.

Morton Prince[5] observes that a common symptom of the traumatic neuroses is pain. The painful sensations are of various kinds, the most conspicuous being general pains. The origin of some of these is very vague. Pain is more often localized, such as that of traumatic lumbago or the neck pains or those in the course of certain nerves. Generally these painful localities were originally injured. The pains may occupy the patient's mind to the exclusion of all other symptoms. They are of a psychical nature, persisting after the subsidence of the original injury as purely psychical phenomena. These psychical pains may be visual, auditive, or algogenetic (induced by a memorial image of a past sensation). After psychical pains of this kind have persisted for any length of time they become habit-pains. The generally-accepted explanation of traumatic lumbago is that it is a persisting sprain of the muscles and ligaments. In the majority of instances, however, it is a purely psychical phenomenon, undoubtedly of traumatic origin. Painful sensations other than those associated with or originally excited by trauma are much more difficult of explanation. It would seem that an intelligible, even if not readily demonstrable, explanation is to be found in the law of diffusion of energy under excessive mental or physical effort. In cases of neurasthenia there are two factors contributing to the demand for increased effort, viz.: diminished contractility of muscles after use and diminished cerebral power. It has been shown, also, that diffusion of afferent impressions to the associated sensory centres does occur. After a time, by the law of association, such pains become habit-pains, and these are designated association-neuroses. In these cases the development of pain upon muscular exertion depends greatly upon the mental attitude of the patient. Usually there is a disagreeable association with the thing to be done and consequently much more effort of will and nervous energy are required; this diffusion to sensory centres of nervous energy intended for the muscles is the most probable explanation of the phenomenon itself. The essential difference between physiological and pathological habits is that one is the result of voluntary education and is agreeable and the other is the result of involuntary education and is disagreeable. The law that governs the two classes is the same.

Etiology.—Philip Zenner[6] looks upon heredity as one of the most important causes of neurasthenia. Among acquired causes, the worry attending business affairs, the sequelæ of infectious diseases, especially influenza, are regarded as peculiar factors. Grip is especially common as a forerunner of neurasthena occurring among physicians. Whether the

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[4] Wiener klin. Woch., June 16, '98.

[5] Boston Med. and Surg. Jour., June 9, '98.

[6] Jour. Amer. Med. Assoc., May 21, '98.

hard work and worry of physicians during an epidemic of grip, or the disease itself is the causal factor, is not known, but probably both are influential.

Ravogli[7] calls attention to the prevalence of neurasthenia among those afflicted with a posterior urethritis either with or without a stricture of large calibre. Whether it is due to the worry of the local disease or from the poisons absorbed from the urethra itself, he is not prepared to say, but thinks both agents are at work. In syphilis, neurasthenia is by no means uncommon, especially among those who have been saturated with drugs. Indeed, the supersaturation in many cases is the causal factor.

Eugene Fuller[8] says the majority of cases of so-called sexual neurasthenia in the male are improperly classed as such, inasmuch as in the majority there is a demonstrable lesion in the sexual apparatus. In most cases the active exercise of the sexual function is affected; therefore the lesion is to be looked for in or about the seminal vesicles and their ejaculatory ducts. In 19 of 20 consecutive cases a seminal vesiculitis, and not neurasthenia, will prove to be responsible for the symptoms.

Sigmund Freud[9] announced awhile ago that every case of psychoneurosis, fixed ideas, etc., had for its predisposing cause some abnormal occurrence in the sexual life before the age of eight years, consciously or unconsciously remembered. He now asserts that every case of neurasthenia has a similar basis, some abnormal occurrence or occurrences in the sexual life of the patient at the present time or since puberty. The idea that mental overwork or excess of household cares can alone induce neurasthenia is scouted, although any depressing factor may favor its development. Absorbing occupations, especially intellectual, protect against the evolution of neurasthenic affections. He divides them into: 1. Neurasthenia proper, which can always be traced to excessive masturbation, unnatural sexual intercourse, etc. 2. Anxiety-neurasthenia, distinguished by dread, restlessness, agoraphobia, vertigo in walking, sleeplessness, etc.; this form can also invariably be traced to sexual influences in the nature of unsatisfied impulses, coitus interruptus, abstinence with inflamed desires, etc. He protests against the prevailing hypocrisy in regard to sexual matters, and urges the physician to assume an abnormal sexual life as his guiding star in the etiology of neurasthenia, as this alone will help him to treat it rationally, after winning his patient's confidence.

According to Morton Prince,[10] in many cases of neurasthenia the feeling of fatigue is in no sense the expression of exhaustion, and in no way suggests or indicates that the muscles or nerves, or both, have been overused. In such cases this sensation is either a pure habit-symptom or one that is excited by central or other stimuli. Cases possessing this type of fatigue are usually susceptible to properly-applied hypnotic suggestion, and consequently its recognition is of great importance. It is possible that this fatigue has a psychical basis similar to that fatigue in general weakness which follows some of the emotions, and which is well recognized to be a manifestation of these emotions. It is possible also that the false fatigue of neurasthenia and hysteria may depend upon what Dr. Putnam calls a rearrange-

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[7] Jour. Amer. Med. Assoc., May 21, '98.
[8] Med. Rec., Feb. 5, '98.
[9] Wien. klin. Woch., Nos. 2, 4, 5, and 7, '98.
[10] Boston Med. and Surg. Jour., June 2, '98.

ment of the cerebral associations, an inhibition of certain cortical centres, and a reversion to less complex combinations. In some cases it seems as if the sensation of fatigue, after exertion, were made persistent through the general idea instilled into the mind of the patient by friends or the physician, that the disability is due to an organic, rather mystical disease process, and that the disease will be made worse and the patient's recovery retarded by anything that increases the discomfort of the patient. In these cases the sensation of fatigue is probably indirectly the result of this false idea of the nature of the neurosis.

John Punton[11] asserts that the consensus of opinion to-day by those most competent to speak declares that neurasthenia in its quintessence is a true fatigue-neurosis characterized by an increased morbid reaction of the ganglionic nerve-centres to all kinds of impressions, both mental and physical, whether slight or profound; producing an excessive nervous weakness and nervous irritability, which constitute its chief cardinal symptoms. Moreover, recent investigation demonstrates that while the various symptom-groups occurring in neurasthenia are numerous and differ widely in detail, yet there are always present certain essential features that constitute a well-defined clinical syndrome. The cardinal symptoms of neurasthenia present well-marked evidence of weakness and irritability of the nerve-centres which, in themselves, are expressive of fatigue. Weakness and irritability of the nervous mechanisms that preside over the various bodily organs are, therefore, the chief clinical phenomena, belonging to any and all varieties of neurasthenia. These may present themselves in all degrees of intensity and are usually accompanied with other symptoms which denote the particular functions of the nervous system that are involved. Hence we may have involvement of the motor, sensory, reflex, trophic, secretory, visceral, and psychical mechanisms, which furnish a wide and varied range of clinical phenomena. Neurasthenia can be reduced to two classes, viz.: (1) complicated; (2) uncomplicated neurasthenia. In the former it may be found associated with many functional as well as organic diseases, such as epilepsy, syphilis, malaria, gout, rheumatism, uterine disease, hypochondria, sexual perversion, insanity, as well as many other morbid conditions. In the latter it presents itself by a conspicuous absence of any such complications, in which case it is known as simple or uncomplicated neurasthenia. The effects of either class, however, produce symptoms which may be referred to both the physical as well as mental constitution of the subject, and present a wide range of clinical phenomena that are, for the most part, subjective in character.

The two important symptoms—viz.: morbid irritability and morbid weakness of the nerve-centres—have been shown by Hodge to be due to changes in the nerve-cell itself, and that the lesion of fatigue is loss of cellular substance involving the nucleus, protoplasm, and even the capsule itself. According to Dercum, this waste of nerve-substance has been demonstrated by Mosso to alter the constitution of the blood, producing a true toxæmia that strongly inhibits the physiological action of the nervous elements distributed to the voluntary muscles and other organs of the body. However, it is certain that the element of autotoxæmia enters largely into the production of neurasthenia, and often gives rise to tissue-changes that are commonly

[11] Jour. Amer. Med. Assoc., Nov. 19, '98.

found associated with its more severe forms.

The continued results, however, of nerve-strain from any cause, that form so prominent a factor in American business, social, political, and professional life, operate upon the physical and mental organization in such a manner as to exhaust strength or vital force more rapidly than recuperation takes place. Consequently nervous exhaustion or neurasthenia ultimately ensues. The reduced nervous energy that results from such causes seriously affects the visceral organs and nutritive functions of the body. A feeling of bodily illness is thus engendered that attracts the attention of the patient to himself and ultimately forms the basis of morbid fears, or nosophobia. This again leads to the development of despondency, petulance, irritability, selfishness, impatience, and vacillating conduct, all of which are marked features of the formative or incipient stage of insanity. Incipient insanity is attended with physical and mental changes that are indicative of nervous exhaustion, and that clinically they are expressed by a diminution or want of vigor of all the bodily processes. Moreover, despondency and nervous irritability are marked features of early insanity. The relation of neurasthenia to insanity, therefore, cannot be overestimated; Kirchoff has clearly shown that certain insanities, such as melancholia, mania, paranoia, and paralytic dementia may develop upon a neurasthenic basis, while Chapin declares that the larger proportion of hospital admissions received in an acute stage of insanity have a history of neurasthenia. He therefore fitly styles it the "soil out of which insanity develops." One of the most important signs of neurasthenia becoming complicated with mental disorder is the manner in which the feelings, thoughts and actions of the patient absorb his entire attention.

Hugh T. Patrick[12] regards two conditions indispensable for the production of neurasthenia, as for the production of nearly all disease: (1) a noxious agent; (2) a relative vulnerability of the organism or of some part of it. The ratio of these two etiological factors may be called the etiological index. In some cases the first effect—that is, the extraneous agent—will be very prominent, the organism itself being considered as normal. In others the exciting agent will be exceedingly slight, the inherent susceptibility or instability of the patient being an essential causal condition. Each of these two classes of neurasthenia will naturally need radically different treatment. In the first, those in which the patient once possessed of a normal nervous system, which had simply been overstrained and overdrained, the important features of the treatment will be rest and recuperation. In the second class of cases, those in which an unstable nervous system of the subject is at fault, the treatment is essentially mental, and the best way of administering it is by systematic education. For such patients isolation and an initial period of rest might be very useful, but for the further treatment gradually increasing physical exercise and mental occupation will be necessary.

In an editorial[13] it is stated that certain French authorities, notably among them Vigouroux, have maintained that neurasthenia and the arthritic diathesis are closely connected, if not merely differing manifestations of the same general disorders of oxidation and tissue-change. In this country we have recognized a

[12] Jour. Amer. Med. Assoc., June 4, '98.

[13] *Ibid.*, Dec. 17, '98.

disorder the majority of the symptoms of which are essentially neurasthenic—lithæmia — as the common American manifestation of the gouty constitutional vice, thus admitting, to a certain extent at least, that autointoxication may give rise to these characteristic symptoms. The presence of uric acid in excess in the urine of neurasthenics has long been noted, and the relations of the gouty diathesis to the condition have been admitted by some neurologists who, like Dercum, for example, are inclined to admit a toxic factor in its production.

An important addition to the literature of the subject is contributed by Bechterew.[14] He has had for a considerable period, examinations and analyses of the urine of neurasthenic patients carried on in Poehl's laboratory, and found that neurasthenia, sometimes at least, appeared to depend upon irregularities of oxidation. In general, and especially in the severer types of the disorder, there was a more or less marked decrease of urea and an increase of uric acid. The proportion of the general nitrogen in the urine to that in the urea —which, according to Poehl, is the coefficient of the oxidation-energy and the expression of the tissue-respiration—indicated a constant and notable decrease of nitrogenous oxidation. The proportion of uric acid to phosphoric acid, in the form of its dinatrium salts, showed an increased cleavage of uric acid, and led to the belief of the presence of a more or less pronounced uric-acid diathesis.

In the severer cases of neurasthenia Bechterew also found that the proportion of general nitrogen to phosphoric acid, which, according to Sulzer, indicates the decomposition-energy of nerve-tissue, seemed to be increased, and the same was true to some extent as to the proportion of general phosphoric to the amount of glycero-phosphoric acid, which, according to Lépine, indicates lecithin decomposition. In many cases also the quantitative ratio of sulphuric acid to the aromatic sulphuric acids that serves as the index of intestinal putrefaction appeared more or less markedly increased.

From these results, Bechterew believes that neurasthenia is associated with irregularities of oxidation of nitrogenous substances in the organism and that it must, therefore, be classed with the other disorders due to and associated with disordered general metabolism. The chief cause is, he thinks, an intestinal autointoxication: a more reasonable theory than that of gastric dilatation suggested by Vigouroux. He does not, however, exclude other predisposing causes of neurasthenia, such as mental strain, etc., which may have their influence in the causation of the intestinal disorder. When once intestinal putrefactive poisons are absorbed, however, there may be ample reason for even severer disturbances of the nervous system; the part they play in the causation of some forms of insanity is probably an important one.

There is something in the suggestion thrown out by Bechterew, that mental overwork and sedentary habits may divert the proper blood-supply of the intestines to some extent and thus embarrass their functions and lead to stasis and absorption of toxic material and also that shock and other occasional causes of nervous asthenia may act through the vasomotor system.

Treatment.—H. C. Sharp[15] states that the diet in neurasthenia should be plain and highly nutritious. His preference is to rely chiefly on milk for the nourish-

[14] Neurol. Centralb., Nov. 15, '98.

[15] Jour. Amer. Med. Assoc., Jan. 14, '99.

ment of a patient, but he allows him to select anything, such as fruit, fresh vegetables and meat, for the purpose of gratifying the palate.

One of the most frequent complications is gastric or gastro-intestinal catarrh. This should be treated by a lavage of first hot and then cold water; also warm poultices over the abdomen.

In the treatment of neurasthenia, where the cause is due to social, domestic, or business conditions, and where there are no pathological conditions of any of the organs, it is very seldom necessary to resort to medicine of any kind. The rest, the withdrawal of the causes that have produced the conditions, and the diet are usually all that is necessary.

Philip Zenner[16] thinks the first *desideratum* in neurasthenia is rest. In mild cases partial rest is sufficient; lying down for an hour after each meal; getting up a little late in the morning; discontinuing work at an earlier hour than usual. The higher the grade of the disease, the more rest is required; so that in the very severe cases the rest-treatment of Weir Mitchell is an essential element in the cure. Suggestion is often needed to remove the abnormal ideas with which the patient is possessed. The patient should never be laughed at, as this often does great harm, lessening the patient's confidence in his physician and in the curability of his malady. Homicidal tendencies, which are often confided to the physician, may sometimes be entirely dispelled by stating that there are no such instances on record in his particular disease. Exercise should only be advised in the mild cases and never be pushed to the slightest degree of fatigue. Change of climate, especially mountain-trips, change of occupation, sea-voyages, etc., are often the only treatment required.

W. S. Watson[17] remarks that portions of the Republic of Mexico, the high table-lands at an elevation of from 3000 to 7000 feet above the sea-level, are well adapted to certain classes of nervous cases, by reason of the high altitude that may be attained, the air being aseptic, free from dust, irritation and low forms of organisms or microbes; by reason of the rapid evaporation of morbid secretions in the lungs promoted by the reduced barometric pressure and the dryness of the air at the elevation named, the increased oxidation of the blood and tissue-changes are due to increased metabolism, dependent on the sunlight of the high altitudes and lessened air-pressure; by the increased quantity of blood circulating in the lungs due to the low air-pressure of the high altitudes. In high altitudes there is an increase of blood circulating through the lungs; hence increased metabolism and tissue-changes. The increased activity and deep breathing attendant upon a life in high altitudes tend to improve nutrition and glandular secretions. Along with the local and general nutritional effects that are manifest from a sojourn in the high altitudes of Mexico are the delightful and stimulating effects upon the nervous system. Still another noticeable feature is the increase of red blood-corpuscles and hæmoglobin.

For neurasthenia:—

℞ Iron lactate, 2 drachms.
Iron arsenate, 3 grains.
Extract of nux vomica, 7 grains.
Extract of gentian, 45 grains.

Divide in 100 pills. Two pills to be taken three times a day.[18]

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[16] Jour. Amer. Med. Assoc., May 21, '98.

[17] *Ibid.*

[18] Jour. de Méd. de Paris; Phila. Med. Jour., Apr. 9, '98.

VACCINATION.

Efficacy of Vaccination.—The following facts about small-pox and vaccination were issued by the Council of the British Medical Association in December, 1897.[19]

1. The mortality from small-pox is much less now than in prevaccination times.

2. The greatest diminution in the small-pox mortality is found in the early years of life, in which there is most vaccination.

3. In countries where there is much vaccination and revaccination relatively to the population, there is little small-pox.

4. In classes among which there is much vaccination and revaccination there is little small-pox.

5. In places where small-pox prevails it attacks a much greater proportion of the unvaccinated than of the vaccinated, especially where the vaccinations are comparatively recent.

6. In houses invaded by small-pox in the course of an outbreak not nearly so many of the vaccinated inmates are attacked as of the unvaccinated in proportion to their numbers.

7. The fatality-rate among persons attacked by small-pox is much greater, age for age, among the unvaccinated than among the vaccinated.

8. It cannot be truthfully alleged that, independently of vaccination, small-pox is a milder disease than in former centuries.

9. The degree of protection conferred by vaccination corresponds to the thoroughness with which the operation has been performed, three or four marks being much better than one or two, and a large mark much better than a small one.

10. Sanitation cannot account for the facts above set forth.

11. Though isolation of small-pox cases in hospitals is a useful auxiliary to vaccination, it is no substitute for it.

12. Vaccination is very safe.

13. Calf-lymph is now available to boards of guardians, etc., for the vaccination of every child in Great Britain.

An editorial[20] shows that while in the Gloucester epidemic 34.4 per cent. of those attacked were unvaccinated children under 10, and 59.7 vaccinated persons over 10, at Middlesbrough up to the end of February, there were only 5.2 per cent. of unvaccinated children, while 80.4 per cent. were adolescents or adults who had been vaccinated in infancy. Thus, while the Gloucester epidemic was largely one of unvaccinated children, so largely, indeed, that it greatly transcends in this respect any epidemic of modern times, the Middlesbrough epidemic has been mainly one of adolescents or adults who had lost more or less of the protection they had acquired in infancy.

Bizzozero[21] notes the success of vaccination in Germany. He says: "Germany stands alone in fulfilling in great measure the demands of hygiene, having in consequence of the calamitous small-pox-epidemic of 1870-'71 enacted the law of 1874, which 'makes vaccination obligatory in the first year of life and revaccination also obligatory at the tenth year.' The result is that, with a population of 50,000,000, having in 1871 lost 143,000 lives by small-pox, she found by her law of 1874 the mortality diminished so rapidly that to-day the disease numbers only 116 victims a year. These

[19] Brit. Med. Jour., Mar. 5, '98.
[20] *Ibid.*, Apr. 9, '98.
[21] Med. News, Dec. 17, '98.

cases, moreover, occur almost exclusively in towns on her frontier. If it were true that a good vaccination does not protect from small-pox, we ought to find in small-pox epidemics that the disease diffuses itself in the well-vaccinated no less than in the non-vaccinated countries. But it is not so. In 1870-'71, during the Franco-German war, the two peoples interpenetrated each other, the German having its civil population vaccinated optionally, but its army completely revaccinated, while the French (population and army alike) were vaccinated perfunctorily. Both were attacked by small-pox; but the French army numbered 23,000 deaths by it, while the German army had only 278; and in the same tent, breathing the same air, the French wounded were heavily visited by the disease, while the German wounded, having been revaccinated, had not a single case.

Meredith Young[22] gives a somewhat complete analysis of the figures he collected when at Brighouse as to the effects of vaccination on the mortality of those attacked by small-pox. Of the 150 cases under his treatment in the district hospital 34 had never been vaccinated, 101 had been once vaccinated, 9 had been so more than once, and 4 were doubtful. The deaths in these several groups were 11, 5, 0, and 2. The percentage-mortality of the unvaccinated was 30.55, of the once vaccinated 4.95, of the revaccinated *nil*, and of the small doubtful group 50. Even if the 4 doubtful cases be added to the vaccinated group the contrast is still remarkable enough. He gives the mortality at several age-groups among the unvaccinated and the once vaccinated. Among the latter the cases in persons under 20 were few, and no deaths occurred under 30. In the never-vaccinated class the largest number of attacks were in those under 10, and 9 out of the 11 deaths were those of children below that age. Some 277 persons of various ages exposed to infection were quarantined and their vaccination-marks examined; 78 were under 10 years of age, 199 were older. Of the former 13, 54, and 11 were, respectively, unvaccinated, once vaccinated, or had been revaccinated. Eleven of the 13 unvaccinated children were attacked, and 3 died; 5 of the 54 once vaccinated developed small-pox, but none died; the 11 revaccinated all escaped attack. Of the 199 above 10, 3 had never been vaccinated; all were attacked, 1 died; 24 had been vaccinated once, 12 were attacked, 2 died. The ages in the two fatal cases were 43 and 59; it is not said that their vaccination dated back to infancy, but it may almost be assumed it was so. The 172 that had been vaccinated more than once did not altogether escape; 6 of them had discrete attacks, and all recovered. Of the unvaccinated among this group of exposed persons, 87 $^1/_2$ per cent. developed small-pox, 25 per cent. of them fatally. Of the 261 vaccinated persons similarly exposed, 23, or 8.81 per cent., contracted the disease, 2, or 0.77 per cent., fatally.

J. N. McCormick[23] states that statistics show that the percentage of varioloid depends largely on the number of scars of vaccination. If cases exposed are vaccinated before the pustular stage of the first case and removed they will not contract small-pox, as a rule.

In an animated discussion on a vaccination bill in the English Commons on April 19th, William Priestly[24] sharply arraigned the enemies of vaccination. Among other points, he stated that it is

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[22] Brit. Med. Jour., Apr. 16, '98.

[23] Jour. Amer. Med. Assoc., May 28, '98.

[24] *Ibid.*, June 18, '98.

computed that at present about a third of all the children born in England and Wales are escaping vaccination, — *i.e.*, about 300,000 children. The discovery of glycerinated lymph was made in 1891, and yet it has never been adopted systematically in England. It is most likely, if once adopted, to remove many of the objections and apprehensions of parents, which no doubt are very conscientious. It has been adopted in other countries where they have ministers of public health, and where a great deal more attention is paid to the question of public health than is the case in England. The system has been carried out in Berlin, Paris, Geneva, and other centres, and as yet there has been no misadventures. Admitting that harm is done by the practice of vaccination, it is not easy at any time to do a vast amount of good without some modicum of harm. All medical efforts are relative; if they were absolute no one would die. It is well-known, for instance, that no one can avail himself of the administration of chloroform to relieve pain without fear of misadventure. In regard to those domestic remedies—Epsom salts and castor-oil—the effects have gone in some cases much farther than has been intended or expected. The great thing in the use of all remedies is to do the greatest amount of good with the least possible harm. It is entirely a question of proportion. Medical men think that vaccination is just as essential to the welfare of the child as the provision of food and raiment. All parents who insist that their children shall not be vaccinated and who persist in this course even after being fined once or twice, should be compelled to subscribe to isolation hospitals.

An editorial[25] states that the essence of contentions of Tebb, and Wallace, and quite a number of other unscientific scientists, is that the lessening and almost extinction of small-pox consequent upon compulsory vaccination is a case *post hoc*, the true *propter hoc* being found in the general sanitary and hygienic progress. If this were admissible it would be necessary to show why typhoid, *e.g.*, has not decreased as has small-pox. But this cannot be done. It would also be necessary to show why the general hygienic progress has failed to lessen small-pox in countries without compulsory vaccination in the same way as in countries with the preventive measure in full force. The statistics show that the eradication of the disease is precisely in proportion to the thoroughness of vaccination and revaccination.

F. S. Fielder[26] gives the following report upon the efficiency of the glycerinated vaccine-virus produced by the vaccine-laboratory, and used by the Vaccinating Corps of the Division of Contagious Diseases of the New York Health Department during the thirteen months ending December 1, 1897. The report is based on the number of *primary* vaccinations performed and inspected, as shown by primary lists furnished by the vaccinators. All cases have been disregarded in which, for any reason, the results of the vaccinations were not learned. The vaccinations performed and inspected during November and December, 1896, were 1062. During 1897 almost all of the work was done during the months of April, May, June, September, October, and November, and the number of vaccinations inspected was 19,742, making a total for the eight months of 20,804. Of these, 20,420 were successful and 384 failed,

[25] Phila. Med. Jour., Jan. 21, '99.
[26] Med. News, Oct. 8, '98.

the percentage of success being 98.106. Some of the vaccinators failed to indicate upon their lists the laboratory numbers of the different lots of virus which they used, so that it has been impossible to classify all the vaccinations according to the virus employed, but a special effort has been made to trace the failures back to the virus used, and this has been successful in most instances. The virus from two particular animals, Calves 199 and 216, was responsible for a very large proportion of failures. From Calf No. 199 the number of vaccinations inspected was 428, of which 257 were successful and 171 failed, the percentage of successes being 60. From Calf No. 216 the number inspected was 242, of which 172 were successful and 70 failed, the percentage of successes being 71. Of the 384 failures, then, Calf No. 199 and Calf No. 216 are responsible for 241, or 63 per cent., leaving 141 failures, or 37 per cent. distributed among 28 other lots. Excluding the cases vaccinated with the two lots of particularly poor virus, we find in 20,134 cases, 19,991 successes and 143 failures, the percentage of successes being 99.29.

An examination of all the reported failures with reference to the ages of the persons vaccinated shows that 15 cases, though classed as "primaries," were so old that it is more than likely that they were revaccinations. Excluding these, we have 20,119 cases, 19,991 successful, and 128 failures, the percentage of successes being 99.363.

The virus issued by the vaccine-laboratory usually retains its activity for at least six months, and it is not easy to explain why lot 199 deteriorated so quickly. The following facts may be stated: Calf No. 199. 1. The vaccination "took" well on the animal. 2. The pulp collected was ground up with chemically-pure glycerin in the proportion of 4 cubic centimetres of glycerin to 1 gramme of pulp. 3. The virus on original clinical test and in first retest "took" well, but it showed signs of deterioration only two months after collection (a few days after the virus was issued to the vaccinators). Although the virus from calf 216 was not originally as ideally good as most of the virus issued by the vaccine-laboratory, yet, in the hands of the clinical tester, it continued for more than four months to "take" in every spot in which it was inserted.

Description of Lymph, Bacteriology, Method of Preparation, etc.—S. Monckton Copeman[27] describes fresh vaccine-lymph, taken before full maturity of the vesicle, as a clear, transparent, limpid fluid, almost colorless in man, and slightly straw-colored when obtained from the calf; this difference in color depends on the varying quality of the normal pigment present in the blood-plasma. Calf vaccine-lymph is also somewhat more viscid than human lymph, and does not flow so readily when the vesicle is punctured, for which reason it is necessary to use compression-forceps in the ordinary method of collection of calf-lymph. Examined microscopically, vaccine-lymph contains a certain amount of epithelial *débris*. Leucocytes are usually present also, the number depending on the stage at which the lymph is taken; few, or even none, are to be found in the contents of the vesicle when first formed, but at or after the period of maturation they may be numerous as to render the lymph turbid, or even puriform. A few red blood-corpuscles may be noticeable.

In stained specimens, particularly, micro-organisms of one or more varieties

[27] Brit. Med. Jour., May 14, '98.

can readily be demonstrated, the actual numbers depending, to a certain extent, on the care with which the lymph has been collected. Vaccination-lymph, chemically speaking, consists of the plasma of the blood. When freshly obtained, therefore, it is faintly alkaline in reaction; but it tends to become distinctly acid after a time, when stored. In addition to the various salts and proteids normally present in the blood-plasma, vaccine-lymph contains some substance—possibly of the nature of a toxin or ptomaine—which results from the vital activity of the specific organism peculiar to vaccinia. That this is so, may be proved either by filtration of the lymph through porcelain or by exposure of it to a temperature of about 122° F.

Copeman[28] states that by consent of a number of observers, fully qualified to judge of the matter, we have in glycerinated calf-lymph, properly prepared, a vaccine-material which, while even more efficient as vaccine than the original lymph, can be produced practically free from the extraneous organisms which at one time or another have been isolated from fresh or stored lymph by the method of plate cultivation. Of not least importance is the fact that vaccine-lymph may, by this method of preparation with glycerin, be rendered free also from pathogenic bacteria, such as those of tubercle and erysipelas, even when these have previously been added in considerable quantity for experimental purposes.

Investigation has been made as to the possible value, for the preservation and purification of vaccine-material, of lanolin and vaselin. From the bacteriological point of view, neither lanolin nor vaselin can be regarded as possessing any value whatever; indeed, it would appear that the extraneous organisms originally present in the lymph with which these substances are admixed, so far from exhibiting, as times goes on, any diminution in numbers, tend, on the contrary, to be come largely increased, as shown by the test of plate cultivation. The advantages of glycerinated calf-lymph are: 1. By employing the method of glycerination of lymph (pulp) great increase in quantity can be obtained without any consequent deterioration in quality, the percentage insertion success following on its use being equal to that obtained with perfectly-active fresh lymph. 2. Glycerinated lymph does not dry up rapidly, as does unglycerinated lymph, thus simplifying the process of vaccination. 3. Glycerinated lymph does not coagulate; so that it never becomes necessary to discard a tube on this account. 4. Glycerinated lymph can be produced absolutely free from the various streptococci and staphylococci which are usually to be found in untreated calf-lymph, and which are considered by Crookshank and others as liable to occasional suppuration. 5. In like manner the streptococcus of erysipelas, in the event of its having been originally present in the lymph-material, is rapidly killed by the germicidal action of the glycerin. 6. The tubercle bacillus is effectually destroyed even when large quantities of virulent cultures have been purposely added to the lymph. 7. The possibility of inoculation of syphilis is eliminated, as the calf is not subject to this disease. 8. The necessity for collecting children together, with the attendant risk of spread of infectious diseases, or of transporting a calf from place to place, is obviated, while the danger of late erysipelas in the child is minimized by reason of there being no necessity to open the mature

[28] Brit. Med. Jour., May 21, '98.

vesicles for the purposes of obtaining lymph. 9. The bacteriological purity and clinical activity of large quantities of the lymph can be readily tested prior to distribution. 10. By reason of the possibility of keeping large stocks of glycerinated lymph on hand for considerable periods of time without appreciable deterioration, any sudden demand, such as is likely to arise on an outbreak of epidemic small-pox, can be promptly met. 11. The expense of producing glycerinated lymph is proportionately small, since the amount obtainable from each calf is enormously increased.

The preparation of glycerinated calf-lymph is as follows: A calf of suitable age, about three to six months, should be kept in quarantine for a week, after which, if found to be quite healthy, it may be removed to the vaccination-station. It is there placed on a tilting table, and the lower part of the abdomen, reaching as far forward as the umbilicus, is thoroughly washed with a solution of carbolic acid, and then rinsed with sterile water and dried with soft sterilized towels.

With a sterilized sharp scalpel incisions about four inches long and half an inch apart, parallel to the long axis of the body, are made on this clean, shaved area. The depth of the incision should be such as to pass through the epidermis and to open the rete Malpighii, —if possible, without drawing blood. As these incisions are made, glycerinated calf-lymph, which by examination has been proved to be free from extraneous organisms, is run into them by means of a sterilized blunt instrument, and the point of the scalpel is, from time to time, dipped into the vaccine-emulsion. After five days, or one hundred and twenty hours, the vaccinated surface of the calf is first thoroughly washed with warm water and soap, rubbed over it by the clean hand of the operator, and finally the whole area is carefully cleansed with sterile water. The remaining moisture is then removed by sterilized sheets of blotting-paper. The vaccinated incisions will now appear as lines of continuous vesicles raised above the surface, each line separated from its neighbor by about a quarter of an inch of clear skin. Any crusts which appear in the vesicular lines are picked off with a blunt sterilized instrument. The vesicles and their contents are then removed by means of a sterilized Volkmann spoon, and transferred to a sterilized bottle of known weight. By going over the lines only once with the spoon it is quite easy to remove the whole of the pulp without any admixture of blood. The abraded surface is carefully washed, and may be dusted over with fine oatmeal or starch and boric powder. Subsequently the calf is transferred to the slaughter-house, and the carcass is examined by the veterinary surgeon, who forwards a certificate of its condition. Should this not be satisfactory, the vaccine-pulp obtained from the animal is destroyed. The bottle containing the vaccine-pulp is taken to the laboratory and the exact weight of the material ascertained. A calf vaccinated in this way will yield from $4\,^1/_2$ to 8 drachms, or even more, of lymph-pulp. This material is then thoroughly rubbed up in a sterilized mortar, or in a mechanical triturating machine. When it has been brought to a fine state of division, it is mixed with six times its weight of a sterilized solution of 50-per-cent. chemically-pure glycerin in distilled water. The resulting emulsion is then transferred to small test-tubes, which are then aseptically sealed, and should be stored in a cool place protected from light. When required for distribution it is

drawn up into sterilized capillary tubes, which are subsequently sealed in the flame of a spirit-lamp. As soon as the vesicular pulp is thoroughly emulsified with the glycerin solution agar-agar plates are established from it, and after suitable incubation for seven days the colonies that have developed on the plates are counted, and examined. Week by week this process is repeated, and invariably the number of colonies diminishes with the age of the emulsion, until at the end of the fourth week after the collection and glycerination of the lymph-material the agar-agar plates inoculated at that time show no development of colonies. The lymph is then subjected to further culture-experiments, and, if these results of freedom from extraneous organisms are confirmed, the emulsion is ready for distribution. The elimination of the extraneous organisms in personal experiments has occurred with marked regularity at the end of the fourth week. The only exception to this rule arises when the lymph originally contained a considerable number of spores or bacilli of the hay bacillus or B. mesentericus. These organisms are very resistant to the action of glycerin; but if the precautions detailed are carried out in the treatment of the calf their presence may generally be excluded.

Richard Slee[29] states that the "bacillus vacciniæ" thrives and increases in activity upon a glycerin medium of such a strength that the extraneous organisms rapidly die out, and it is just this storing in glycerin that has given to the physician a safeguard and enables him to produce with almost absolute certainty a pure vaccination, without unpleasant local or general reaction.

The trouble lies largely with the medical profession, which adheres to old-fashioned methods, ivory points or other forms of dried virus in which the sterilizing performed by the glycerin cannot be made available; virus in this form is liable to be handled by various persons before it reaches the doctor, and thus renders useless all precautions taken by the producer. The medical profession can obtain any quantity of pure active virus, in liquid form, packed in various glass tubes or bulbs, that will retain its activity many months. Such virus will not produce a mixed infection, and all that it is necessary to do is to insist on being supplied with glycerinated virus that has been stored for at least four weeks and not fresh from the cow.

An editorial[30] refers to Richard Thorne's report upon glycerinated calf vaccine-lymph. In it are noted the results of the inquiry by a special commission, into the methods employed in certain Continental cities in the distribution of vaccine-lymph derived from the calf, more especially in reference to the preparation, storage, and distribution of glycerinated calf-lymph. The places visited were Paris, Brussels, Berlin, Dresden, Cologne, and Geneva.

In each of these countries vaccination with calf-lymph has become the habitual, if not the universal, practice. In only one of the places visited—namely, Paris—was vaccination carried out under official sanctions, with crude calf-lymph, and even there the process was limited to vaccination direct from calf-to-arm, all lymph stored for distribution being glycerinated calf-lymph.

The reasons for the adoption, by these countries, of the use of glycerinated lymph, are largely owed to the demonstration by competent bacteriologists,

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[29] Phila. Med. Jour., Oct. 8, '98.

[30] *Ibid.*, Jan. 15, '98.

that the addition to calf-lymph of a 50-per-cent. solution of pure glycerin in sterile water, followed by the storage of the lymph-material in tubes, with proper precautions, for a term of several weeks, suffices to rid the lymph of extraneous pathogenic germs, while leaving it quite active as vaccine. Another important advantage of the method is that, by reason of the dilution referred to, the amount of vaccine procurable from a given calf can be enormously increased without, within certain limits, interfering with the success following the use of the lymph. The board has hitherto not deemed it expedient to make one calf serve for more than from 200 to 300 vaccinations. It is no unusual thing abroad to provide from a single calf an amount of glycerinated lymph that shall serve for from 4000 to 6000 vaccinations. In one instance, in Berlin, the commission was assured that the glycerinated lymph prepared in their presence from one calf would suffice for no fewer than 15,000 vaccinations. No lymph is permitted to be issued from any of the Continental stations until a report has been received from a veterinary surgeon, after slaughter of the animal, that the calf furnishing it is free from disease. This practice is mainly carried out with a view of avoiding all risk of conveying tuberculosis along with the lymph.

W. G. King[31] prefers lanolin as a preservative for vaccine rather than glycerin for tropical climates, though glycerin is sufficiently useful in temperate climates. The form of lanilin uniformly advised by him—namely, "neutral anhydrous lanolin"—is specially prepared for vaccination purposes by Beno Jaffe and Darmstaedter, Martinkenfelde, Berlin, by methods approved by Professor Liebreich. Brands in the market differ greatly in purity, and it is well that care be exercised in selecting specimens for special purposes.

E. B. Sangree[32] insists that no vaccine-virus should be permitted to be sold in a State, unless that virus has received the indorsement of the State health-authorities, after an inspection of its source by a competent bacteriologist who is officially connected with these authorities.

After failing to identify vaccine-virus by ordinary bacteriological means, A. F. Kent[33] undertook the preparation and examination of a large number of sections of the vaccine-vesicle and the surrounding tissues. The preparations were made by vaccinating a susceptible animal, excising the resulting vesicles at stages of their growth varying from a few hours after inoculation to their latest development, fixing and hardening these specimens by the best-known methods, and after sectioning them, subjecting them to several different methods of staining. By this means was isolated a bacillus designated the diplobacillus vacciæ, which is not present, as are the extraneous organisms, in countless multitudes at the surface of the skin and in the hair-follicles, but is present in the tissues surrounding the vaccine-vesicle not only soon after inoculation, but even up to the twelfth or fourteenth day, and probably even later. It is, for the most part, contained in cells; some of these cells are wandering cells, others of the nature of fixed corpuscles. It appears practically in pure culture in the deeper tissues. The morphological characters, the distribution in the tissues, the relation to cells and the staining reagents, together with the fact that cultures containing the organism produce in the

[31] Brit. Med. Jour., June 25, '98.
[32] Phila. Med. Jour., Oct. 29, '98.
[33] Lancet, May 21, '98.

calf and in children typical vaccine-vesicles, give support to the view that this is the true germ of vaccinia.

Klein and Kent have described bodies having the appearance of spores in these organisms, which probably explains the permanence of vaccine-lymph when preserved upon dry points. In glycerinated lymph that has been kept for a few weeks, the diplobacillus vacciniæ has been shown to be present. It has also been found in vesicles produced by inoculation of cultures, and it has the same relative distribution as regards cells and extraneous organisms as has been described. The organism will develop upon a culture-medium consisting of 16 per cent. of glycerin and 33 per cent. of egg-albumin, which becomes opalescent, in conjunction with the formation of a flasky, semitransparent material, especially at the upper part of the tube where the fluid was in contact with air.

S. Monckton Copeman[34] says that if, as he believes, it can be conclusively proved that small-pox lymph, by passing through the system of the calf, can be so altered in character as to become deprived of its power of causing a generalized eruption, while inducing at the site of inoculation a vesicle indistinguishable from a typical vaccine-vesicle; and, more important still, if it be shown that, when transferred again to man, it has by such treatment completely lost its former power to produce an infectious disease, it may fairly be asserted that cow-pox—or, rather, that artificially-inoculated form of the disease which we term vaccinia—is nothing more or less than variola modified by transmission through the bovine animal.

Perhaps the most reasonable interpretation of such results may be that small-pox and vaccinia are both of them descended from a common stock—from an ancestor, for instance—which resembled vaccinia far more than it resembled small-pox. It is conceivable, indeed, that the seeming vaccinia, obtained in the calf by inoculation of small-pox matter into that animal, may after all be but a reversion to an antecedent type.

Frequency of Vaccination.—According to B. W. Smock,[35] vaccination should be done in infancy, at puberty, and mature age. Immunity of doctors and nurses in small-pox hospitals is the best evidence of its efficacy. No such thing as constitutional insusceptibility to vaccination exists.

F. J. Sandford,[36] after having been a public vaccinator for forty-four years, and a medical officer of health for twenty years, confidently believes that honestly and perfectly performed vaccination almost invariably confers protection against small-pox for about ten years, and after that interval of time from primary vaccination, all residents in very populous and crowded localities should, to insure life-long protection from the disease, submit to revaccination, preferably with glycerinated calf-vaccine lymph. No proof of any organic disease or malady permanently injurious to health as the result of vaccination has ever come under his notice, but he has seen cases of simple erysipelas caused by mismanagement of the vaccinated arm. The rashes sometimes said to be due to vaccination are often the effects of dietetic errors. In reference to the allegation that a considerable number of infants die annually from vaccination, he observes that the death-rate of infants under the age of three months is always very high, and that many of them die

[34] Brit. Med. Jour., May 7, '98.
[35] Jour. Amer. Med. Assoc., May 28, '98.
[36] Brit. Med. Jour., Apr. 30, '98.

unvaccinated before that age. It was shown about forty years ago by Dr. Stark, a Scottish physician, that in Scotland, where vaccination had been very much neglected, that more than 80 per cent. of all the deaths from small-pox in that country had happened in children under five years of age. Cases of small-pox are now unknown in the following classes of persons, namely: teachers in elementary and other schools, post-office clerks and postmen, police-constables, soldiers, sailors, etc.; all of them, though vaccinated in childhood, are always re-vaccinated as soon as they are first employed to serve under the English government.

Clinical Course of Symptoms Following Vaccination.—L. B. Tuckerman[37] points out the close analogy between the clinical course of small-pox and that of vaccine. In the former there comes after twelve days of incubation the chill with pain and fever; then, forty-eight hours or so later, the eruption, first papular, then vesicular, and the pain and fever subside: the small-pox proper is over. There is no culture-medium better adapted to the propagation of pus-forming cocci than the contents of these same vesicles and coccus infection is sure to take place, the resulting symptoms being more or less severe as the vesicles are more or less numerous and the cocci more or less virulent. Just so with vaccine. A few days after inoculation there comes a chill with more or less febrile movement, often unobserved, because the physician may not see the patient at all after vaccination. The vesicle matures ordinarily from the eighth to the tenth day, a little later with bovine lymph than with humanized virus. When the vesicle is well filled, then comes the secondary coccus infection. If it be mild there will be simply an areola about the pustule. If it is severe, an erysipelatous blush with induration of the skin will extend upward and downward encircling the arm and reaching ofttimes to the wrist. In such cases the whole thickness of the true skin at the site of the pustule slough out, leaving an ulcer with margins sharply defined, as though cut out with a punch. This cavity must fill up with granulations before it can heal, and is very liable to become secondarily affected.

Blood-examination. — John S. Billings[38] reports the results of the examination of the blood in fourteen cases of vaccinia. Several more were examined, but only those cases are reported in which the vaccination was successful. At each examination fresh specimens were made and ringed with vaselin; the majority of these were very carefully examined for the bodies described by Pfeiffer and Reed, a mechanical stage being used. Dried and stained specimens (hæmatoxylin, safranin, etc.) were also examined to this end, but all such examinations were entirely negative. Nothing abnormal was noted; nothing even suggesting such bodies as have been described by those two observers was found.

Vaccination seems to have no effect upon the number of red corpuscles. No changes in shape, size, or staining properties were noted in the dried and stained specimens.

Hæmoglobin, like the red corpuscles, is apparently unaffected by vaccination, no marked variation in the percentage being noted in any of the cases.

Vaccination produced a moderate, but well-marked, increase in the number of the leucocytes in thirteen out of the fourteen cases. In only one instance did

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[37] Cleveland Med. Gaz., Feb., '99.

[38] Med. News, Sept. 3, '98.

the number of leucocytes reach 20,000 per cubic millimetre. This case was interesting as showing the greatest systemic reaction to vaccination. This was probably due to the anæmia and general lack of resisting power. It is well known that cases of acute suppuration in enfeebled individuals show higher leucocytosis than similar cases in strong, healthy persons. As a rule, the number of leucocytes ranged at about 15,000 per cubic millimetre. The rise took place gradually, an increase at a point above the normal being usually first noted on the day on which the arm began to be red and tender at the point of inoculation. From this on the number of leucocytes slowly increased, reaching its maximum at about the same time as the pustule at the point of inoculation (sixth to eighth day), and falling again to normal by lysis, taking two to four days to do so.

In Cases 1 and 2 the blood was examined within an hour after vaccination, in order to determine whether any preliminary decrease in the number of the leucocytes took place (leucocytolysis). None was noted, but a series of observations would be necessary to determine this point. It is unlikely that any leucocytolysis does occur, the effect of vaccination upon the system being so gradual that the usual driving off of the leucocytes into the capillaries does not occur. This view is confirmed by the experiments of Goldscheider and Jacob, who found that small quantities of bacterial toxins injected at intervals did not bring about a leucocytolysis. No changes in the morphology of the leucocytes were noted in the stained specimens. Differential counts of the various forms of leucocytes showed the increase to be in the so-called polynuclear neutrophiles, so that the leucocytosis occurring in vaccinia is one of the so-called inflammatory or pure leucocytoses, such as occur in pneumonia, suppuration, etc.

Methods of Vaccinating.—Hutchins[39] claims that vaccination may be robbed of its terrors by the application of liquor potassæ to remove the superficial epidermis. Two or three minutes after the application is made the superficial epidermis may be wiped off with a bit of wet cotton, when a moist shining surface will remain without bleeding. The vaccine material is now applied and allowed to dry in the usual manner.

The New York City Board of Health[40] asserts that the part of the body to be preferred for the vaccination is at the insertion of the deltoid of either arm. When the leg is vaccinated (possibly on account of the greater difficulty of keeping it quiet and clean) inflammatory complications are more frequently present and are apt to be more severe. The skin at the place chosen should be made clean. The scarification should be made with a sterile instrument. The Department of Health recommends the use of an ordinary cambric needle, because a new one may be used for each case and there is thus no possibility of the transference of an infection from one person to another. When, however, the necessary precautions can be taken to render the instrument aseptic, any other sharp instrument serves as well. It is of great importance that the scarified area should not be more than one-eighth of an inch square, because the larger the area, the greater the tendency to subsequent infection and to inflammatory complications. It should be noted that a vaccine-vesicle enlarges peripherally, and the resulting crust always covers a con-

[39] Jour. Amer. Med. Assoc., Apr. 23, '98.
[40] *Ibid.*, Sept. 17, '98.

siderably greater area than that originally scarified. The virus should be rubbed in thoroughly and allowed to dry for at least ten minutes. It is a convenience to blow the virus from the capillary tube in which it is contained on to the accompanying piece of wood and then rub the wood on the scarified area, instead of blowing the virus directly upon that area.

On May 12th Surgeon-General Sternberg[41] issued the following order:—

"To all surgeons and assistant surgeons: Vaccination by regiments will take place as soon as they are mustered. You are directed to operate according to the following rules, assisted by your hospital-stewards:—

"1. The left arm is to bared. A space four inches square at the outer border of the deltoid midway between its origin and insertion is to be thoroughly scrubbed with warm water and potash soap, then cleansed with alcohol, and finally washed with pure water and dried with a pledget of absorbent cotton.

"2. The arm is to be lightly scarified, where cleansed, for a space of one-half inch square. Both ends of the vaccine-tube are to be broken off, and the virus blown on the wound with the rubber bulb furnished, and thoroughly rubbed in with the point of the lancet. The lancet is to be cleansed with alcohol after each scarification.

"3. The arm is to be left exposed until thoroughly dry. A pledget of sterile cotton, two inches square, is to be placed over the wound and held in place by an adhesive strap one-half inch wide and four inches long."

W. F. Elgin[42] condemns the use of vaccine- crusts, quills, points, etc., or any other form of virus which has not been subjected to the purifying effects of glycerin or some similar agent. As to the methods of vaccination: On the Continent, a number of insertions are recommended, a small amount of the fluid is dropped on the skin in from three to five places and a sharp-pointed lancet thrust once through the epidermis at each point desired to be inoculated. This puncture should be in an oblique direction and should extend only through the skin. In Paris, the lancet is charged with the lymph before the insertion. The theory for the number of insertions seems to be, that the vaccination more nearly approaches the point of saturation from multiple vesicles than from a single vesicle. This method is also recommended in this country by Hardaway, of St. Louis, who suggests not less than five insertions one-half inch apart. Hewett, of Minnesota, modifies this by using a clean needle and making five pricks just deep enough to start the blood and about one inch apart. "Then with the same needle charged with the virus, gently pricks it into each wound carefully." His opinion is that at least four perfect vesicles are necessary to protection.

The general method in this country is to use the single scarification about the insertion of the deltoid and carefully rub in the virus. Elgin prefers the insertion method when using glycerinated lymph, since it is difficult to get the lymph to "dry," and there can be no doubt that careless manipulation is more liable to result in contamination in this than the insertion method.

Sternberg writes: "Immunity may be induced by the subcutaneous inoculation of vaccine-virus without the development of a vaccine-vesicle; and it is probable that the subcutaneous injection of lymph preserved in glycerin would give pro-

[41] Jour. Amer. Med. Assoc., June 11, '98.
[42] *Ibid.*, July 16, '98.

tection without any of the septic complications so common as a result of vaccination by the usual method."

The same fact was also noticed by Kinyoun, who says: "Subcutaneous inoculations are followed by slight inflammatory reaction, being less when the virus is well diluted. There is slight engorgement of the vessels and occasionally a slight exudation at the point of inoculation, which disappears in a short time. There is no lesion accompanying subcutaneous inoculation." This question suggests room for future experimentation in the hope that it may eliminate so many distressing complications of vaccination which annoy the patient and are a source of anxiety to the physician.

L. B. Tuckerman[43] says that if these cases of vaccination are properly cared for from the first, and are watched to avoid complications, bad arms will cause trouble but rarely. From the time the vaccine is inoculated it is well to put the patient on an alkaline laxative, a rhubarb-soda-ipecac mixture being good, viz.:—

℞ Rhei pulv., 24 grains.
Sodii bicarb., 1 drachm.
Pulv. ipecac., 4 grains.
Syr. simp., ad 4 ounces.

A teaspoonful every three hours to a child of six years. The patient is ordered to show himself for inspection every three days, and oftener if symptoms of complication are manifest. If glands show signs of involvement, sulphide of calcium, $^1/_2$ grain every two to four hours, may be given. If erysipelatous inflammation sets in, a 10- to 15-percent. solution of ichthyol may be applied. If the ulcer slough, the cavity may be filled with balsam of Peru and castor-oil, 1 drachm to 1 ounce, and covered with a glaze pad retained in place by adhesive strips. In short, the cases are to be treated as one would treat any other pustular affection of equal gravity and subject to similar complications.

Vaccination with points, instead of with lymph or crust, is doubtless responsible in no small degree for the rapid spread of small-pox during the recent epidemic, for the point is by far the least reliable of any of the methods of vaccination. Often where vaccination with points has failed utterly, revaccination with the lymph has succeeded perfectly in causing a characteristic pustule. If the point chance to take, well and good; but if points do not take, it is no sign that the person is immune.

T. Colcott Fox[44] states that by the consent of all unprejudiced persons it is allowed that the inoculation of other diseases with vaccinia is an event of great rarity in England. If reasonable precautions are taken the danger is infinitesimal.

It is impossible, however, to deny the fact that subsequent to the dismissal of the child on the eighth day secondary inoculations of a grave character do take place, and constitute a powerful weapon in the hands of the opponents of vaccination. He refers to the inoculation of pyogenic and other organisms setting up local sloughing and gangrene, erysipelas, septicæmia, pyæmia, tetanus, etc. The very common autoinoculation of pus-organisms from these contaminated vaccination-wounds, known as impetigo contagiosa, probably causes more prejudice than anything. These disasters are only indirectly connected with vaccination, and are preventable. It is

[43] Cleveland Med. Gaz., Feb., '99.
[44] Brit. Med. Jour., Apr. 2, '98.

not just to ascribe accidents to parental neglect and carelessness, but in any case the proper course is to prevent them as far as possible. As the State considers it desirable to ordain the operation of vaccination, it is bound by all the teachings of modern science to see that the wounds heal under the best possible conditions. If it is found impracticable to keep the child under observation, clear printed instructions as to the treatment of the wounds would be better than nothing.

L. B. Tuckerman[45] gives the case of a school-boy of 11 who had been ordered vaccinated by the school-authorities. His mother objected to having it done, but as he could not be readmitted till he was vaccinated she concluded, after keeping him out a week or so, to have it done. His father was working at a fairly well paid branch of labor, but the mother was a thrifty woman and sent him to a free dispensary to get it done for nothing. All proper precautions were taken to avoid sepsis, and he was vaccinated with a glycerinated lymph from the house whose preparations justly command the confidence of the profession. He was ordered to return in a week for inspection, but didn't return for about three weeks, and then he had an ugly sore on a badly inflamed arm with an old cloth, not too clean by any means, tied around it. Shortly afterward he developed symptoms of tetanus, and died.

The carelessness was not chargeable in any way to the dispensary attendants. The unfortunate result was wholly due to the neglect of the parents to see that the boy obeyed orders. If the boy had returned at the end of the week and the sore had been properly seen to, there is no likelihood that secondary infection could have occurred.

Medico-Legal Aspect. — A municipal corporation, while enforcing a valid ordinance requiring citizens and residents of the city to submit to vaccination, is exercising a governmental power, and, the supreme court of Georgia holds, in the recent case of Wyatt *vs.* the City of Rome, is therefore not liable to a citizen who may sustain damage on account of impure vaccine-matter administered to him by one of the officers or agents of such corporation. To allow any citizen a right of action on account of injuries, real or supposed, that he may have suffered in the interest of the public good, the court says, would be to paralyze the arm of the municipal government, and either render it incapable of acting for the public weal or would render such action so dangerous that the possible evil consequences to it, resulting from the multiplicity of suits, might be as great as the small-pox itself. Hence the wisdom of the law in exempting it from liability on such an alleged injury as one resulting from the negligent administration of impure vaccine-matter by the officers or agents of a city while enforcing a valid ordinance. The supreme court of Georgia says that it has been able to find no court that would hold a city liable for any injury that may be sustained as the result of enforcing measures legally enacted for the promotion and preservation of the public helath.[46]

Loir,[47] noting the prevalence of small-pox in the Algerian Protectorate, states that, in order to get the Mohammedans to permit of vaccination, it is essential to obtain from the Tunisian religious authorities a declaration affirming that

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[45] Cleveland Med. Gaz., Feb., '99.

[46] Jour. Amer. Med. Assoc., Nov. 12, '98.

[47] Phila. Med. Jour., May 14, '98.

the procedure is not forbidden by the Koran.

Laveran[48] said that Bechir-Dinguizle, by inquiry among the superior Mohammedan clergy, ascertained that vaccination does not clash with any religious belief of the country.

[48] Phila. Med. Jour., May 14, '98.

Cyclopædia of Current Literature.

ALCOHOL IN INFLAMMATORY PROCESSES.

An excellent method of treating inflammatory processes by the external application of alcohol is as follows: The inflamed part is washed with soap and water, dried, covered with some gauze, and then a layer of from $^1/_2$ to $^3/_4$ inch of cotton-wool is bound around the part by means of a gauze bandage. This is saturated with a strong solution of alcohol, but not that it drips, a cover of gutta-percha-paper, containing small holes at intervals of about an inch, is fastened by means of a gauze bandage so that it overlaps the bandage by one inch on every side. This bandage is removed every twelve or twenty-four hours, according to the circumstances. This method has been successfully used in the treatment of whitlow, lymphangitis, localized furunculosis, and sycosis. Theodore Zangger (Lancet, Jan. 28, '99).

ARGENTAMINE.

Twenty-nine cases of leucorrhœa of varied origin have been successfully treated with argentamine. For ordinary washing out of the vagina, solutions of 1 to 5000 or 1 to 4000 were used; but for disinfection stronger solutions were used: 1 to 3000, 1 to 2000, or 1 to 1000. In simple leucorrhœa due to inflammation of the vagina (by irregular mode of living, general debility, insufficient hygiene, etc.) irrigations of argentamine solutions (1 to 1000), together with a strengthening diet, effected complete cure in nine cases. More especially in muco-purulent leucorrhœa, which so frequently occurs in little girls, argentamine has surpassed all expectations.

In 11 patients (of which several had passed through various treatments without benefit) argentamine solutions, 1 to 3000, were always successful. In seven of these cases complete cure was effected; 3 cases showed improvement almost approaching cure; and in the remaining 1 case a considerable improvement took place. Four latter cases prematurely interrupted the treatment.

Six cases of gonorrhœal leucorrhœa (four acute and two chronic) were by treatment with argentamine quickly and completely cured. A. G. Cipriani (The Therapist, Feb. 15, '99).

ASTHMA, PARALDEHYDE IN.

Paraldehyde administered in a fairly-large number of cases of idiopathic asthma and other forms of spasmodic dyspnœa has given satisfactory results. In the treatment of hospital out-patients suffering from asthma, morphine hypodermically is out of the question and it is not usually advisable to prescribe chloral in such cases. Paraldehyde is absolutely safe. It not only relieves the spasm, but it induces tranquil, refreshing sleep without any objectionable after-effects. Besides, no evil results follow

its prolonged use; it does not give rise to a habit, and on this account it is a much more desirable drug than morphine and chloral. Iodide of potassium and tincture of lobelia, as a rule, do much to relieve the bronchitis and to lessen the spasm, but their effect is immensely increased by securing sleep and the prevention of the nocturnal spasms by means of paraldehyde. The drug occasionally causes sickness, and for this reason it proved of no use in a severe case of long-standing bronchitis and emphysema. Its disagreeable, pungent taste makes it objectionable to children and nervous patients, but it is well disguised by cinnamon-water and tincture of orange-peel. It acts, as a rule, so rapidly that the dose ought to be taken after the patient has gone to bed. In adults it is best to begin with a dose of 60 minims, and the same dose has equally good hypnotic effect when it has been taken for months. Alexander MacGregor (Lancet, Feb. 11, '99).

BROMOFORM.

Bromoform may be successfully used according to the following prescription, which is given very explicitly, as the preparation requires accuracy in dispensing:—

℞ Bromoform, 7 1/2, 15, or 30 grains.
Solve in spirit. vini rect. æqual. partib. tere exactissime cum.
Gumm. arab., 75, 150, or 300 grains.
Adde paulatin
Aq. destill., 3 1/2 ounces.
Syrup. aurantii cortex, 1/2 ounce.
D. in vitro nigro.
Sig.: One teaspoonful to be given every two hours. Bottle to be well shaken before using.

This emulsion keeps for days without the bromoform's separating if prepared exactly as above. Care should be taken that the bromoform is first of all dissolved in equal parts of alcohol free from water, in order to avoid the loss of bromoform by adhering to the glass; then the mixture should, in three to six intervals, be mixed with gum arabic, taking care that ten times as much gum is used as of bromoform; lastly, water is added very gradually, and the mass is stirred to a thick emulsion until the whole of the prescribed fluid has gradually been added. The syrup should be added after the emulsion is ready. The dispensing should, all the same, be done rather quickly, in order to avoid the evaporation of bromoform. The addition of syrup simplex should be avoided on account of the already disagreeably sweet taste of bromoform with gum arabic. In dispensing for the poor simply 4 ounces of water should be added, and even then it is readily taken by children. If the medicine is to be taken for a prolonged time, it is not to be recommended to dispense large quantities at a time. M. Cohn (Ther. Monats., Jan., '99).

BRONCHO-PNEUMONIA IN CHILDREN.

Treatment. — No remedy has nearly the value of large doses of belladonna in the treatment of broncho-pneumonia in children. Out of about sixty cases treated by this plan only two deaths occurred. It was found that a very few doses, in most cases, relieved the dyspnœa, and the temperature fell to normal soon after the beginning of the treatment. In addition to the large dose, the extract of the late British Pharmacopœia is especially recommended. This is given in 1/4-grain doses every three or four hours, irrespective of the age of the infant. In a very few cases these doses

induce slight delirium, which is quickly relieved by lessening the dose. In a large majority there is some flushing of the skin, in some a definite scarlet rash. The children under this treatment are irritable. J. A. Coutts (Brit. Med. Jour., Jan. 28, '99).

CHLORALB ACID IN STOMACH DISEASES.

Chloralb acid is a compound of chlorine and albumin, which is obtained from cows' milk by treating the albumin with chlorine and removing the HCl which is formed during the substitution. Good results were obtained with a soluble preparation of chloralb acid, given in 15- to 30-grain doses between meals in cases of organic and functional diseases of the stomach in which HCl was absent from the gastric juice. The good effects were not due to the production of free HCl. There was, however, a reduction in total acidity,—*i.e.*, a diminution of the fermentative organic acids, probably through a stimulating action exerted by the remedy on gastric peristalsis. Chloralb acid has also a good effect on the intestine, and is most useful in cases of atony accompanied by anorexia, anacidity, excessive formation of organic acids, deficient intestinal absorption, and constipation. W. Fleiner (Münch. med. Woch., Jan. 3, '99).

COCAINE IN RIGID OS UTERI.

The use of cocaine is advocated for rigid undilatable *os uteri*. In five cases, all primiparæ, from nineteen to forty years old, cocaine was used with unvarying success, and dilatation was always secured in a very few minutes. The cocaine was used after failure by other methods. It is used in a 10-per-cent. solution, is rubbed over the external and internal surfaces of the cervix, and the cotton is allowed to remain in contact with the os for a few minutes. Farrar (Brit. Med. Jour., Sept. 17, '98).

In a primipara with eclampsia, having a very rigid os only slightly dilated, cocaine was applied in a similar manner to that used by Farrar, while the patient was being chloroformed. By the time the patient was sufficiently anæsthetized the operator was able to pass his hand into the os. May (Brit. Med. Jour., Nov. 26, '98).

CONSTIPATION, HABITUAL.

Treatment. — In cases of obstinate chronic constipation the systematic administration of enemata of water retained until completely absorbed is a method of treatment often attended by very satisfactory results. At the commencement a lavement of 8 ounces of tepid water is given at bed-time, or, if one has to deal with a patient who is intolerant and sensitive, a weak infusion of camomile is given instead. The disagreeable sensation provoked by the presence of water in the rectum rapidly subsides and does not prevent the patient from sleeping. The administration is repeated every evening, the quantity of liquid being gradually increased to 24 ounces and its temperature lowered to 68° F. The patient should go to stool in the morning and, if the attempt at defecation be unsuccessful, an ordinary enema should be given. The duration of this treatment varies from a month to six weeks. At the end of this time spontaneous defecation is generally established. Klemperer (La Sem. Méd., Jan. 4, '99).

CORYZA, MEANS OF ABORTING.

An incipient cold in the head can always be checked if the nose is thor-

oughly rinsed out with a weak solution of potassium permanganate, which seems to have a specific action upon the germs causing the trouble. A few drops of a strong solution of potassium permanganate are added to warm water until it is colored a pale pink. After blowing the nose vigorously, both nostrils are rinsed out well with this weak solution, the fluid being allowed to run out through the other nostril and through the mouth. Each nostril is then wiped out with cotton on the finger to mechanically remove all remaining germs. A small dry plug of cotton is then pushed well up into each nostril and the nostrils filled with the weak solution, with the head held back, allowing the cotton to soak it up. The cotton is left undisturbed for about an hour, when the plugs are expelled by blowing the nose. Even an established cold is favorably influenced by this treatment, but it is most effective when the sneezing, tickling, and increased secretions announce the advent of the cold. Max Nassauer (Klin. ther. Woch., Jan. 1, '99).

DYSENTERY.

Treatment.—Of 60 cases of dysentery, 25 received ipecacuanha and opium; the remaining 35 were treated with magnesium sulphate. Under the former method of treatment the death-rate was 32 per cent., and under the latter 2.9 per cent. The recoveries occurring under the former treatment were slow, and accompanied by frequent relapses; under the latter they were complete and rapid, but it was always found advisable to continue 1-drachm doses of magnesium sulphate three times daily for a couple of days after the stools had ceased to be dysenteric. J. J. Day (Brit. Med. Jour., Feb. 4, '99).

HEADACHE.

Diagnosis. — In studying headache, after neuralgic pains, migraine, and disease of the cranial bones have been excluded, it is necessary to consider the possibility of the disease of the membranes or of the brain itself. Headache due to these conditions is nearly always associated with general symptoms, such as vomiting, convulsions, paralysis, and inflammation or atrophy of the optic nerve. The organs of special cases—that is, the eye and nose—should always be carefully examined in any event. It is also important to study the blood and the secretions of the body.

Treatment.—The treatment of headache should always be based upon a diagnosis that recognizes its cause. The drugs that may be used are either analgesics derived from coal-tar, such as phenacetin, exalgin, etc.; vegetable derivatives, such as caffeine and opium; minerals, such as bromides, and antispasmodics, particularly belladonna. Drugs of the first group are usually used for the temporary amelioration of the pain. If the vascular tension is lowered, caffeine is indicated, and if increased, cannabis Indica. The bromides are to be used chiefly in epilepsy, and perhaps migraine, and the salines in that form of headache associated with neurasthenia. General measures are of the utmost importance in this condition, particularly exercise, change of environment, hydrotherapy, electricity, massage, etc.

Epileptiform headaches, that is, those replacing the epileptic attacks, should be treated systematically by bromides. The headache of exopthalmic goitre should be treated as are those of neurasthenia. Among the most valuable drugs is aconitine in doses of $^1/_{200}$ grain, or, in cases of lowered arterial tension, digitalis. Headaches associated with organic dis-

ease require treatment for the disease. Those due to poisons are best cured by preventing further ingestion of the deleterious agent. Frequently, after infectious diseases, it is desirable to give a tonic. In cases of endogenous poisoning treatment should be directed to the cure of the general condition. In cases of arterial sclerosis amyl-nitrite may be of value. A peculiar form, to which the name of habitual headache has been given, is usually associated with lack of tone, and a mixture of ammonium chloride, hydrastis, and viburnum is recommended for it. Joseph Collins (Med. News, Feb. 18, '99).

HEART-MURMUR, THE SO-CALLED FUNCTIONAL.

A functional murmur is usually, though not always, systolic in rhythm; while frequently at the base, it is very commonly situated at the apex; in the more severe degrees of anæmia or intoxication it is more common at the apex, in milder disturbances at the base. In intensity it is generally "low" and "faint"; in quality "soft" and "blowing," especially when at the apex. Rough, harsh, functional murmurs are generally situated at the pulmonary cartilage. The murmur is often transmitted from the apex to the axilla, and, as due to a relative mitral insufficiency, may even be heard in the back. Moderate pulmonary accentuation is frequent. In those cases where the murmur is basal and appears to be accidental, it is generally associated with anæmia. Moderate enlargement of the cardiac area is fairly common, and points to a relative mitral insufficiency.

The cases studied illustrate especially the following points:—

1. In cases of anæmia pulmonary accentuation is often associated with a pure accidental murmur.

2. Functional murmurs frequently occur where there is neither anæmia nor fever. They are then often associated with some other condition suggesting intoxication.

3. Diastolic murmurs have been noted which do not appear to have an organic origin.

4. Although accidental murmurs are generally heard at the base and those of relative mitral insufficiency at the apex, accidental murmurs are probably sometimes heard at the apex (as in moderate anæmias where the murmur may occur at the apex unaccompanied by pulmonary accentuation or cardiac enlargement and disappear after a short time; or in high fevers where a murmur at the apex is replaced after a few days by one at the pulmonary cartilage of the same character). On the other hand, murmurs produced at the mitral valve are occasionally, though rarely, heard best at the pulmonary cartilage.

Two conditions which it may be quite impossible to distinguish from each other by physical signs are:—

A functional murmur at the apex with signs of moderate dilatation (relative mitral insufficiency), and an organic mitral murmur with signs of compensatory change. A decision can often only be reached by considering the patient's general condition and the persistency of the murmur. This last is the clinching-point, and is the final criterion to which uncertain cases must be brought. Maude E. Abbott (Montreal Med. Jour., Jan., '99).

LACTOSE AS AN OXYTOCIC.

Lactose has been personally used in ten labors at or near term, and in one abortion at the second month with re-

tained placenta. This compound always stimulated an inert uterus, but was not efficacious till after complete dilatation of the cervix. As Chauveau has shown, lactose acts only where the muscle has accomplished its work, when a partial consumption of muscular glycogen has occurred. The minimum dose is from between $^3/_4$ ounce to an ounce. It is better to repeat small doses than to increase the dose when the effect is not rapid. The compound, in accordance with the principle above noted, acted quickest the more advanced the labor, and suited multiparæ best. Ten minutes seems the shortest interval, but with a stubborn cervix lactose may take two hours to act. Lactose did not influence the expulsion of the after-birth, uterine retraction, or the excretion of milk. In the case of incomplete abortion, lactose acted within an hour. Its action ceased after the retained placenta had come away; therefore it was concluded that a foreign body must occupy the uterus before the compound can act. Lactose is free from any poisonous properties, guiltless of compromising the puerperium, and harmless to the fœtus. It also acts on the general muscular system, and so is a tonic as well as an oxytocic. Keim (L'Obstét., Jan. 15, '99).

NIRVANIN.

A new local anæsthetic under the name "nirvanin" is the hydrochlorate of diethyl-glycocoll-para-amido-ortho-oxybenzoic-acid-methyl-ester. It occurs as colorless prisms, readily soluble in water, and yielding a neutral solution. On not very sensitive mucous membranes a 5-per-cent. solution of nirvanin is non-irritating, but the anæsthesia is not so deep-seated as to enable painless operations on the deeper layers to be made. When the preparation is injected subcutaneously, however, or applied to wounds or sores, a persistent and complete anæsthesia is said to be obtained. It may be injected to the extent of 8 grains. A 1-per-cent. solution suspends all bacteriological development, fermentation, etc. For treating wounds or lesions of the eye, the nirvanin may be advantageously combined with cocaine, because alone it irritates the normal eye too strongly. A 0.2- to 0.5-per-cent. solution is considered suitable also for the Schleich infiltration-anæsthesia; and a 2-per-cent. solution was found to be useful in dentistry. The new preparation is almost non-toxic. Einhorn and Heinz (Pharm. Centralb., xxxix, p. 991).

Nirvanin has been employed in atheroma, lipoma, fibrolipoma, etc., in $^1/_{10}$- to $^1/_5$-per-cent. solution and effected complete painlessness. The period of analgesia could be varied according to the strength of the solution employed, and varied from five minutes with a $^1/_{10}$-per-cent. solution to twenty-three minutes with a 2-per-cent. solution. Luxenburger (Münch. med. Woch., xlvi, p. 9, Jan., '99).

PARALYSIS FOLLOWING CEREBRO-SPINAL MENINGITIS.

Diagnosis.—In cases of paralysis following cerebro-spinal meningitis, pain on passive motion of the limbs persists to a degree rarely, if ever, found in anterior poliomyelitis. Such pain and tenderness sometimes exists during the acute stage of anterior poliomyelitis for two or three days, but if it lasts much longer than a week, the case is personally considered as one in which the diagnosis is to be vary carefully examined. It is not uncommon, on the other hand, for great pain, on passive motion of the limbs or of certain joints, especially the

ankles, to exist in cerebro-spinal meningitis one, two, or more months after the acute stage of the disease has ceased. Tenderness on pressure over the muscles also persists much longer than in anterior poliomyelitis, where it rarely continues much beyond the acute stage; but it does not last as long as the pain on motion, active or passive. The character of the paralysis also differs, at least in the early stages, although later it is often nearly indistinguishable. There is always a tendency to spastic contracture in the early stages of the paralysis of cerebro-spinal meningitis. More often, and particularly in the later stages, this tonic or spastic condition is not so evident and shows itself only or principally in the extreme degree of flexion (extension) at the ankle-joint, the foot often being in a position of equinus, its axis almost in direct continuance of that of the leg.

The knee-jerk is, on the whole, less affected than in anterior poliomyelitis; but the knee-jerk is sometimes, in this affection, as in anterior poliomyelitis, totally abolished. In addition to these clinical signs there is the history of the initial attack to guide one. While certain cases occur in which it is difficult to determine the character of the initial attack, as a rule, the existence of the retraction of the head and of contractures of the muscles of the back or limbs, the continued presence of extreme tenderness or pain on movement, and the duration of the acute stage of the disease enable us to determine more or less accurately the character of the case. Any case is suspicious in which the acute stage lasts more than seven days.

The conditions in these cases closely resemble, if they are not identical with, those reported in certain epidemics of so-called anterior poliomyelitis. W. N. Bullard (Boston Med. and Surg. Jour., Feb. 16, '99).

PHTHISIS.

Treatment. — Action of the essential oils and other volatile substances were tested on the growth of the bacillus tuberculosus and in the treatment of phthisis. Clinical observations were carried out on twenty patients suffering from phthisis in various stages, none of whom were confined to bed. In some cases the patients were made to inhale, once or twice a day, air impregnated with one or the other of a pure variety of oils of cinnamon or peppermint, while in other cases the patient was given a supply of the material and instructed to inhale it almost constantly both night and day. A bib was devised on which the oil was sprinkled, and this was worn suspended from the neck so that the air taken into the lungs was thoroughly impregnated with the vapor. The results were uniformly unfavorable. In the bacteriological examinations neither of the oils showed any deleterious influence of the growth of the tubercle-bacillus. Experiments were made with formaldehyde in 40-per-cent. aqueous solution, the patients inhaling a spray containing 1 part of this solution in 16 of water; at the same time bacteriological examinations were undertaken with a 6-per-cent. solution of formaldehyde, and the result proved most satisfactory as regards its action on the bacillus tuberculosis. Even a weak solution of formic aldehyde exerted a very marked retarding and inhibiting influence on the growth of the tubercle bacillus inoculated on favorable culture-media, and this influence, prolonged over forty-eight hours, entirely prevented the growth and future development of the bacilli. The clinical results with this medication were quite in

accord with the results of the bacteriological observations. The 6-per-cent. solution was usually employed, being decreased or increased according to the idiosyncrasy of the patient. The drug was inhaled either once or twice a day, compressed air by a simple mechanical arrangement being made to bubble through the solution. The bib-method was used in some instances. In many cases there was some irritation at the back of the throat, which occasionally induced violent paroxysms of coughing. Twenty cases were treated. In 6 of them the results were inconclusive either because the patient was lost sight of or because additional methods of treatment were used. In the remaining 14 cases nothing but the formic aldehyde was administered, with the exception of an occasional pill of $^1/_{60}$ grain of picrotoxin to check night-sweating. Of these 14 cases 12 were much benefited, while 2 were slightly improved. The disease was treated in all its stages. Probably the best method of treating tuberculous phthisis is to obtain bacilli from the expectoration, cultivate them, pass over them various volatile substances until one is found which will arrest their growth, and then administer it by inhalation. William Murrell (Brit. Med. Jour., Jan. 28, '99).

PUERPERAL SEPSIS, HYDROGEN PEROXIDE IN.

In puerperal sepsis the interior of the uterus should first be irrigated with a normal salt solution, secundines or other retained foreign materials removed by means of the sharp curette and irrigations with salt solution freely used. After thoroughly drying with aseptic cotton or gauze, hydrogen peroxide is applied to the uterine cavity by means of a small intra-uterine syringe or an applicator, upon which is wound a piece of aseptic gauze or absorbent cotton saturated with the agent. The foam should be removed and fresh applications made until the cessation of foaming gives positive evidence that the uterine cavity has been thoroughly cleansed. This procedure should be practically daily until the temperature falls to normal and remains at that point. The rationale of the treatment by hydrogen peroxide is that this agent causes a rapid oxidation or superoxidation of effete organic matter. It initiates, but infinitely improves and accelerates, the efforts of the human organism to remove offending foreign materials. The advantage of this agent over bichloride of mercury, carbolic acid, and other agents that act chemically is that it is non-corrosive and non-destructive to healthy tissue. Besides, the results obtained from the use of hydrogen peroxide are vastly superior to those obtained by the use of any other agent. John N. Upshur (Atlanta Med. and Surg. Jour., Dec., '98).

PUERPERAL SEPTICÆMIA.

Puerperal septicæmia is an infectious disease caused by the absorption of pathogenic germs, usually the streptococcus pyogenes, rendered possible owing to a lesion produced along the genital tract by the obstetrical traumatism.

Almost in every case the germs come from without, and are brought into the genital organs before, during, or after labor.

Whatever may be the form and intensity of further clinical manifestations during the puerperium, the disease is always localized at the beginning and liable to be reached and checked by surgical means at our disposal.

The first symptoms generally appear within thirty-six hours after labor and

are characterized by elevation of temperature, frequency of pulse, cephalalgia, insomnia, and more or less abdominal tenderness.

The preventive treatment consists in having the uterus thoroughly empty after delivery and in surrounding ourselves before, during, and after labor with the most scrupulous antiseptic precautions, endeavoring also to detect and immediately treat the least solution of continuity along the vaginal tract.

The curative treatment must be employed at the very onset of the symptoms, and consists in vaginal antiseptic douches, successively followed, should there be no improvement in the symptoms, by intra-uterine irrigation and a single or repeated curettage of the uterus.

Later on, if the physician has been called too late or has neglected to intervene opportunely, curetting and antiseptic cleaning of the uterine cavity may be tried, but the results are then doubtful.

Infection having become totally systemic, general therapeutic measures must be resorted to, the prominent indication being to sustain the organism in its struggle against the effects of septic absorption. The treatment which must be directed against the various complications arising then in the different organs, such as peritonitis, pelvic abscess, phlebitis, cellulitis, being usually the same as the treatment required by the surgical affections of these organs outside of puerperium. L. Coyteux Prevost (Montreal Med. Jour., Jan., '99).

RETENTION OF URINE IN CASES OF ENLARGED PROSTATE.

Where retention of urine depends upon the presence of an enlarged prostate it will occur in one or two forms, viz.: (1) acute complete retention; (2) chronic incomplete retention.

In the first variety the retention occurs suddenly, and is complete — no urine being voided. The patient is seized with the attack in the midst of apparently perfect health, after exposure to cold or damp; or perhaps after excessive drinking of gin or whisky.

Constipation is not an unusual occurrence, and is an important factor in these cases.

Examination of the rectum will show in all instances marked enlargement of the prostate, but the gland will feel soft, as if very considerably congested.

In the second form, that of chronic incomplete retention, the retention does not occur suddenly, nor is it complete, the patient being able to pass some little urine, but in small quantities at frequent intervals. The causes operating to bring about chronic retention are (1) gradually increasing obstruction to flow of urine produced by growth of the gland, and (2) corresponding loss of power in the detrusor muscles of the bladder, with consequent inability to empty the bladder, the result being the gradual accumulation in the bladder of residual urine. As this residuum increases in amount the atony of the muscular coat of the bladder becomes more and more marked, until, finally, all power to expel the urine being lost, the bladder overflows and there results a constant dribbling of urine: the condition known as the incontinence of retention.

Treatment.—In the treatment of retention of urine in cases of enlarged prostate, three things are essential: (1) the proper instruments for the purpose; (2) an absolutely-clean and, as far as possible, sterile catheter; (3) a knowledge on the part of the physician how

such an instrument can best be used to accomplish the desired object.

It must be borne in mind that the prostatic overgrowth, projecting, as it does, into the bladder, has the direct effect of elongating the urethra, the result being that the urethra will be found to measure from ten to fourteen inches in length, instead of eight or nine, the normal length. Therefore the ordinary metallic catheter, measuring about nine inches, will utterly fail to enter the bladder in these cases.

When under these circumstances it is deemed advisable, or for want of suitable elastic instruments, it becomes a necessity to use a metal catheter, the only one suitable for the purpose is the long prostatic catheter with the "Benéqué" curve. There are, however, two forms of elastic woven catheters that are much better adapted for this purpose,—in fact, are indispensable in the successful treatment of these cases. They are the Mercier, or single elbowed, and the bicoudé, or double-elbowed, catheters.

The physician should also have at hand a long metal prostatic catheter. These instruments should be of 18 or 20 caliber (French scale).

As the material of which the catheters are made precludes their being boiled, it is almost, if not quite, impossible to have them absolutely sterile. But they can at least be thoroughly washed in a solution of green soap and hot water, and wrapped in bichloride gauze until wanted.

Dr. Edward Martin exhibited before the County Medical Society (*vide* "Transactions") a very ingenious and handy device for keeping instruments sterile. It consisted of an oblong tin box, the size and shape of an ordinary corset-box, containing a false bottom, in which was placed a quantity of paraform. Bacteriological investigations proved that the instruments in the box were sterile, and remained so indefinitely.

Whatever plan is adopted for the purpose of keeping catheters clean, it should be carried out thoroughly in every detail and at all times. They should at all events be kept apart from other instruments in a clean receptacle devoted to that purpose.

There is no special expert skill required in the use of the coudé or bicoudé catheter. All that is necessary is that the catheter should be guided along the urethra into the bladder with a firm, but gentle, touch, no force whatever, being required. Before introducing the catheter the urethra should be very thoroughly washed out with a solution of silver nitrate, 1 grain to the pint, several syringefuls of the solution being forced into the anterior urethra from the meatus. It has been demonstrated that this solution has the power of destroying the micro-organisms in the urethra, and at the same time does not disturb the integrity of the mucous membrane. There is one more point of vital importance in the conduct of these cases, the neglect of which has cost many a man his life. When called to relieve retention due to enlarged prostate one should never entirely empty the bladder.

This rule is imperative and constitutes the only line of right practice in these cases so frequently seen of chronic incomplete retention, with atony of bladder due to constant accumulation of residual urine. Under such circumstances sudden withdrawal of all the urine in the bladder is sure to be followed by a profuse hæmorrhage from the toneless walls of the viscus, with a subsequent intractable cystitis, and very often by suppression of urine, with death from

uræmia. H. M. Christian (Phila. Polyclinic, Jan., '99).

SPINAL CURVATURES.

Treatment.—Personal conclusions in regard to the forcible straightening of spinal curvatures are as follow: 1. In all cases where the deformity is progressing, and in all cases where the duration of the disease renders it certain that consolidation is not far advanced, it is justifiable to make a reasonable attempt to correct or reduce the deformity, provided, of course, that the patient is not suffering from tuberculosis of the lungs or of the meninges. 2. All cutting operations and all attempts to completely obliterate the deformity at once by means of great force must be regarded as of doubtful utility, since such operations add at least 10-per-cent. to the mortality-risk. 3. Sinuses and unopened abscesses are no bar to the operation, provided the straightening be effected with reasonable gentleness. 4. Sinuses and abscesses should not be interfered with surgically unless the patient is suffering from symptoms of sepsis. 5. In all cases where paraplegia is present the operation is imperatively demanded. After the operation the paraplegic symptoms frequently subside at once and in almost all cases within a few hours. 6. If the jacket be put on with the patient resting on the bridge-support and with the spine hyperextended, a repetition of the forced straightening with the patient anæsthetized will rarely be necessary. 7. When the disease is located at or above the ninth dorsal vertebra the head must be supported; this can usually be most comfortably managed by building the jacket high under the chin while the head is bent far back and the patient resting upon the bridge. 8. The period of recumbency depends upon the amount of straightening accomplished, the stage of the disease, and as to whether the disease is progressive or retroprogressive; it will be rarely less than three months and will often extend to eight months or more. 9. The question of relapse of the deformity has not yet been settled; but it is probable that there will be some return of deformity. It appears to depend wholly upon whether the patient is kept recumbent until the gap produced by the straightening has become filled with osseous material. 10. A cure cannot be asserted until all symptoms of the disease, particularly the symptom of reflex muscular rigidity, have long been absent. John Ridlon (Amer. Gyn. and Obstet. Jour., Dec., '98).

SULPHONAL, POISONING BY.

A case of poisoning followed the administration of 35 grains of sulphonal in two doses of 20 and 15 grains each at an interval of twenty-four hours. The doses were taken in the evening. On the morning following the second dose the patient was ataxic and reeled about, suffered from headache and tinnitus aurium. At 2 P.M. she thought she was dying. Both the face and body were livid. She was unable to speak. She fainted and vomited several times; the respirations were extremely slow and shallow. The heart's action was feeble and occasionally intermittent. The pupils were dilated and reacted feebly to light. She had severe headache. Under the use of stimulants, hot-water bottles, and hypodermic injections of strychnine, she rapidly improved. Frederick Tresilian (Brit. Med. Jour., Jan. 28, '99).

TRICHINOSIS, SPORADIC.

Symptoms.—The symptoms in a case of sporadic trichinosis may be quite as

distinctive as when a whole series of cases occur in rapid succession in a household or a community. But this is not always so, and the remarkable discrepancy between the clinical and anatomical experience shows that we must frequently overlook the disease. Several days elapse after the ingestion of the trichinous pork before the larval muscle-trichinæ reach their sexual maturity and two or three days before the female gives birth to the embryos. During this period the patient frequently has severe symptoms: nausea, vomiting, and diarrhœa, with colicky pains in the abdomen. In large epidemics there have been a few cases in which the disease assumed a choleraic type. Among the symptoms of invasion are pains in the joints, bones, and muscles. These symptoms may be not more than those usually associated with an acute infection, and they are different from the pains subsequently complained of, which are confined more particularly to the muscles. Of all the symptoms of invasion, fever is the one which is most apt to lead to error in diagnosis in the sporadic cases. This, with the accompanying phenomena of rapid pulse, headache, stupor, and general symptoms of serious illness, suggests to the physician the diagnosis of typhoid fever. According to Strumpell, the temperature may for a time reach 104° or 106°, but the fever is seldom continuous for any length of time, being usually interrupted by frequent and considerable intermission. Niemeyer speaks of the fever as high, with slight morning remissions, and says that it very closely resembles the curve of typhus and other infectious diseases. He states, in addition, that occasionally the temperature-curves can scarcely be distinguished from those of typhoid. Eichhorst speaks of the fever as chiefly of the remittent type, simulating very often the curves of typhoid fever. Osler (Amer. Jour. Med. Sci., Mar., '99).

TUBERCULAR EMPYEMA.

Treatment.—Two cases of tubercular empyema were treated by aspiration and injection of iodoform into the pleural cavity. The first recovered entirely from the empyema, but died later on from tubercular broncho-pneumonia. The second, after being treated, returned to hospital apparently well, but a small quantity of a clear, serous fluid was withdrawn from his chest. He, however, finally made a complete recovery. In both cases eleven punctures were made, at intervals varying from a week to a month. The first puncture for evacuating the pus was made with an ordinary trocar and cannula, but the subsequent injections of iodoform were made through a hollow needle. From 10 to 25 cubic centimetres of a 10-per-cent. glycerin emulsion of iodoform were injected each time. The next injection should not be given until the iodide reaction has been absent from the urine for several days. A. Tietze (Deut. med. Woch., Dec. 29, '98).

TUBERCULOSIS, CREASOTE IN.

Creasote is but slightly toxic, it has been given in daily doses varying from 150 to 225 grains without producing any noticeable ill effects even when continued for months. Such treatment in cases of pulmonary tuberculosis increases the patient's appetite, adds to his weight, lessens the cough, checks the night-sweats, lowers the temperature, reduces the amount of expectoration, and hinders the progress of the disease. In some instances the tubercle bacilli disappear from the sputa. The beneficial results

following the administration of creasote to tuberculous patients is due to its destructive effect upon such associated microbes as streptococci, pneumobacilli, etc., and not to any power it has over the bacillus tuberculosis. Its chemical effect in neutralizing the toxins aids in the same direction. Its use is advised only in the early stages of the disease, and it should be administrated by the mouth, by inhalation, and subcutaneously. In the latter method of administration a 1 to 15 solution in olive-oil is used, eucalyptol or myrtol being sometimes added. For continuous inhalation, from 1 1/2 drachms to 2 1/2 drachms of a 33-per-cent. alcoholic solution are ordered, and by the mouth 40 drops are given, being gradually increased to 4 or even 5 drachms in oil-emulsion or milk at meal-times. Savoire (Wiener klin. Rund., Jan. 1, '99).

TUBERCULOSIS OF THE ABDOMINAL CAVITY.

Treatment. — When the abdominal cavities of dogs were infected with tubercle bacilli, they died in from four to five months from a tubercular peritonitis without any signs of a general infection. If laparotomy was performed in about twenty-four days after inoculating the peritoneum, *i.e.*, when the tubercular process was represented only by scattered minute gray nodules, there was no improvement, nor even a lessening of the rapidity of the disease. But if the laparotomy was deferred until the tuberculosis was further advanced,—say, four to six weeks after inoculation,—a very marked benefit was manifested, and often an absolute cure was effected. The examination of the peritoneum then showed the disappearance of the tubercular disease with a substitution of a greater or less amount of fibrous tissue. The good results of laparotomy in tubercular peritonitis is due to congestion of the peritoneum. This congestion, which is at first arterial and later venous, lasts for several days or even a week after the operation. Hildebrandt (Münch. med. Woch., Dec. 27, '98).

TUBERCULOSIS, PREVENTION OF.

The notification of phthisis to the medical health officer is the best means of its prevention. Apart from compulsory notification, it is possible to secure the disinfection of houses in which deaths from phthisis have occurred. This measure is adopted in some of the English towns, the procedure being to send a circular by post to the head of the house in which a death has occurred to be followed by a visit of inspection during the course of a week to see that the work directed has been carried out. In some instances, in addition to this, there has been adopted a system of voluntary notification of all cases of phthisis removed to the work-house, the house vacated by the patient being thoroughly purified. The circular referred to reads as follows:—

1. Strip the wall-paper from the wall. The paper should afterward be burnt in the fire-place of the same room.

The chief danger is from dust. Hence all articles should be thoroughly wetted before cleansing them. A supply of disinfectant for mixing with the water can be obtained free of cost at the office at the town hall, but a disinfectant is not essential if everything is thoroughly wetted.

2. Thoroughly wash the ceilings and floors and walls of the room.

3. Wash all bed-linen and other articles in the room, and expose all bedding, pillows, etc., out-of-doors for several hours in bright sunshine.

For the last five years every death from any form of tuberculous disease has been made the subject of an inquiry under the following heads:—

Deaths from tuberculous diseases: Sex, age, disease, address, name of doctor, date of death, duration of illness, source of milk-supply, places of residence during illness, nature of occupation during the last ten years, other cases of allied diseases in the family, and previous history of the house.

Condition of the house as regards (1) overcrowding, number of occupants (over 10, under 10), number of living-rooms and bed-rooms; (2) whether animals are kept; (3) condition as to dampness, condition as to cleanliness; (4) ventilation; (5) lighting; (6) drainage-arrangements; (7) dust-bin; and (8) size of yard and condition of paving. A. Newsholme (Lancet, Feb. 4, '99).

TYPHOID FEVER.

Treatment.—In cases of typhoid fever $^1/_{100}$ grain of copper arsenite with 1 minim of nuclein solution in the form of tablet triturates were given at intervals of three hours from 6 A.M. to 9 P.M. daily with seemingly remarkable results. The duration of the fever was invariably shortened and its character changed. Where the stomach is rebellious or when the anticipated medicinal effect is not observed the nuclein should be given hypodermically in doses of 5 minims, once daily. The copper arsenite exerts an important influence upon the cellular structures and nerve-supply of the small intestine, while the nuclein stimulates the leucocytic function. John Aulde (N. Y. Med. Jour., No. 3, Feb. 11, '99).

UTERINE FIBROIDS.

Treatment.—So long as fibroid tumors give rise to no marked symptoms and show no tendency to enlarge they may be ignored; if, however, they are definitely increasing in size it is wiser to remove the entire uterus, leaving all the ovarian tissue possible, while the tumor is yet fairly small. E. Stanmore Bishop (Lancet, Jan. 28, '99).

X-RAY IN THE DIAGNOSIS OF TUBERCULOSIS.

In 20 cases of pulmonary disease the fluoroscopic examination showed the degree, position, and relation of diseased areas more fully and more accurately than the ordinary methods of diagnosis. Early diagnosis in tuberculosis is important, and especially the proper interpretation of the presence of subcrepitant râles in the early history of these cases and of the differentiation between areas of consolidation and cavity-formation. The x-ray makes a positive diagnosis of the stage of the disease possible. J. Rudis-Jicinsky (N. Y. Med. Jour., Feb. 18, '99).

Book Reviews.

Præco Latinus, Folia gentium latina menstrua litteraria ac critica, ad propagandum sermonem Latinum, necnon ad fovendum litteras Latinas. Edited by Arcade Mogzoróssy. Pretium Subnotationis in America, $1.50. (A Latin monthly magazine, for the dissemination of Latin speech and encouragement of Latin letters. Philadelphia, 1328 Spring Garden St. Price, $1.50 a year.)

Our readers may not know that a magazine in the Latin language is published in this country, not as a curiosity for enthusiasts, but as a far-reaching enterprise. Replete with interesting matter,

it appeals in many ways to those who hope to see the day when a universal vernacular will more closely unite nations and, by fostering closer intercourse, replace brutal international strife by international comity and affection. Indeed, at the bottom of the Præco Latinus lies hidden a noble plan, which its promoters, Mr. Ferdinand Philips and Mr. Arcade Mogzoróssy, the editor, a latin scholar of unusual merit and ability, have launched with all the vigor that so philanthropic a cause merits. They propose to found, at an early date in Philadelphia, an International Academy, where Latin conferences will be held and wherein all efforts will be made to illustrate the real worth of Latin, not only as a classic tongue, but as an invaluable medium for the interchange of thought in all directions; commercial, scientific, and literary. Our fraternity more than any other is interested in this project; in fact, all men of culture should encourage the Præco Latinus by subscribing to it —as a small expression of good-will to humanity at large.

Conservative Gynecology and Electro-Therapeutics: A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M.D. Third Edition, Revised, Rewritten, and Greatly Enlarged. Illustrated with Twelve Original Full-Page Chromo-lithographic Plates and Twelve Full-Page Half-tone Plates of Photographs Taken from Nature and Numerous Engravings in the Text. The F. A. Davis Company, Publishers, Philadelphia, New York, Chicago. 1898.

"Conservative Gynecology and Electro-Therapeutics" represents a third edition of the author's work on "Electricity in the Diseases of Women." It contains the very latest advances on this subject, including the nature and causation of the diseases of women in which electricity is urged as a rational remedy. In its new shape the book is transformed; it is, in reality, a treatment on the medical and surgical diseases of women, with special reference to the therapeutic use of electricity.

Nearly all of the modern treatises on gynecology having been written from a purely surgical stand-point, opportunity is thus afforded for the rescue from oblivion of many facts as to the origin and nature of inflammatory diseases of the uterus and adnexa.

The author commends this work to his professional brethren, and bespeaks for it a share of attention and kind consideration at least as great as that accorded to each of its predecessors. We can heartily join him, for the work merits all the support that the profession can give it. It is replete with beautiful illustrations, black and colored, and the publishers have evidently done their best to make the work worthy of its readers and of the excellence of its contents.

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

Transactions of the American Otological Society, Thirty-first Annual Meeting, Pequot House, New London, Conn. July 19, 1898. Vol. vii, Part I.——Fifth Annual Report on Births, Marriages, Divorces, and Deaths in the State of Maine. 1896.——The Phonendoscope and Its Practical Application. By Aurelio Bianchi, M.D. Translated by A. George Baker, A.M., M.D. George P. Pilling & Son, Publishers, Philadelphia, 1898.——Acromegaly, An Essay to which was Awarded the Boylston Prize of Harvard University for the Year 1898. By Guy Hinsdale, A.M., M.D. William M. Warren, Publisher, Detroit, Mich.——Fourteenth Annual Report of the Bureau of Animal Industry for the Fiscal Year 1897. U. S. Department of Agriculture, Washington, D. C., 1898.——Annual Reports of the Department of Agriculture for the Fiscal Year Ended June 30, 1898. Report of the Secretary of Agriculture. Washington, D. C., 1898.

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Report of Surgical Operations in the Private Surgical Infirmary of Drs. C. S. and Samuel S. Briggs, During its Seventh Season, from September 10, 1897, to August 1, 1898. Reported by J. C. Bell, M.D., Nashville, 1898.——Transactions of the Grant College Medical Society, Bombay, from January to December, 1897.——Transactions of the Alumni Association

of the Woman's Medical College of Pennsylvania, 1898.——Forhändlinger ved Nordisk Kirurgisk Forënings 3: je Möde, 1898.——From the U. S. Department of Agriculture, Washington, D. C., the following: "Cultivation of Tobacco in Sumatra." By Emile Mulder, 1898. "Changes in the Rates of Charge for Railway and Other Transportation Services." Prepared, under the Direction of John Hyde, by H. T. Newcomb, 1898. "Some Edible and Poisonous Fungi." By Dr. W. G. Farlow, 1898. "Osier-culture." By John M. Simpson, 1898. "Principal Poisonous Plants of the United States." By V. K. Chesnut, 1898. "Sheep-scab: its Nature and Treatment." By D. E. Salmon. D.V.M., and Ch. Wardell Stiles, Ph.D., 1898. "The Fertilizing Value of Street-sweepings." An Investigation made under the Direction of H. W. Wiley, by Ervin E. Ewell, 1898. "Tomato-growing." By Edward B. Voorhees, M.A., 1898. "The Liming of Soils." By H. J. Wheeler, Ph.D., 1898. "The Peach-twig Borer: an Important Enemy of Stone-fruit." By C. L. 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By Arthur J. Gillette, M.D., St. Paul, Minn., 1898.——Caries of the Teeth and Diseases of the Stomach. By Dr. Charles D. Aaron, Detriot, Mich., 1898.——Diarrhœa and Bacteria. By Charles D. Aaron, M.D., Detroit, Mich., 1897.——The Early Diagnosis of Cancer of the Stomach. By Charles D. Aaron, M.D., Detriot, Mich., 1897.

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Cyclopædia of the Year's Literature.

ASTHMA.

Symptoms.—Sidney Martin[1] states that spasmodic asthma, whether primary or secondary, is a disease essentially due to some nervous change. Its partial heredity, its occurrence largely in "neurotic" subjects, its occurrence in families subject to migraine, as well as the characteristic attacks of the disease, bring it into relation with nerve-storms, such as epilepsy. The typical uncomplicated asthmatic attack, as it is seen in children

[1] Gaillard's Med. Jour., Mar., '99.

and in some adults, is sudden in its onset, and occurs in the early hours of the morning, between 2 and 4 A.M. It is characterized by intense dyspnœa, in which the patient is unable to assume the recumbent position, but is obliged to hold on to a chair or the bed-railing firmly in order to get purchase for the accessory muscles of respiration. The shoulders are raised, and both the natural and the accessory muscles of respiration are contracting vigorously, although the chest moves but little in expansion. The dusky face shows the embarrassment to the circulation and the deficient oxygenation of the blood; the sweating skin shows the great muscular exertion, as well as the effect of deficient oxygenation of the blood. The lungs are, as a rule, actually enlarged during the paroxysm, but auscultation shows that little or no air is entering into them. The respiratory murmur is absent or whistling, and sonorous rhonchi alone are heard. The attack lasts a variable time and may be over by morning, or it may last for twenty-four hours or longer. After the attack expulsion of mucus from the lungs occurs, but there is no continued cough or expectoration.

Etiology. — Kissel[2] had five cases of asthma in childhood under his care in the Olga Children's Hospital, Moscow. The ages of the children varied between 9 and 10 years. There was a strong neurotic family history in most of the cases. The attacks of asthma occurred only in the winter months. They usually began with a copious expectoration of mucus, and rhonchi could be heard all over the chest during a paroxysm. There was no sign of rickets or any malformation of the chest-wall. All the viscera appeared to be normal, and between the attacks the children appeared to be perfectly well. Kissel maintains that true nervous asthma exists in children as well as in adults, but it is rare.

In the various children's hospitals, among 21,528 patients there were found 6 cases of asthma; among 214,712 outpatients there were 7 cases.

Samuel Gee[3] says that in asthma there is no doubt that the chest is in a state of inspiratory distension, dilated to its utmost capacity and fixed in this position. But it is more likely that this state of things is due not to inspiratory spasm, but to expiratory debility. Air is imprisoned in the lungs, and no amount of forced expiration can empty them. If the sufferer could empty his lungs, he could fill them again; it is the deflation which is at fault, and the extreme inflation is due to incessant forced inspiratory efforts to make the most of what little room for fresh air can be provided by forced expiration. Contraction of the bronchial muscular fibres or of the respiratory muscles, if it play any part in the asthmatic paroxysm, may doubtless be due to irritation of appropriate nerves, but the muscular contraction itself has not been proved to occur, and this must be done before we need discuss its causes. The influence exerted by the nervous system upon secretion, nutrition, and the blood-supply is well known as a general fact, but any particular application of this fact to explain the pathology of asthma is at present beyond our power. Thus, we have no evidence to show that asthma takes its origin from the nerves or brain.

The doctrine of a spasmodic asthma is very imperfectly supported by facts, but we are led to believe that all asthma is merely a peculiar form of bronchitis, and

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[2] Archiv f. Kinderheilk., vol. xxiv. Parts III and IV, '98.

[3] Brit. Med. Jour., Mar. 25, '99.

that there is no need for any hypothesis of spasm in order to explain the phenomena of the disease. Which element of the catarrh, defluxion or swelling, obstructs the tubes is a question which naturally arises. The interesting observations of Lefèvre, published more than 60 years ago, upon the expectoration of peculiar mucous cylinders, which he compared to cooked vermicelli, toward the end of an asthmatic attack render it very probable that both secretion and swelling concur to obstruct the bronchia. But there remains another and much deeper question which concerns the asthmatic tendency: in what does it consist? Why are some persons prone to asthmatic catarrh and others not? Why does the disposition run in families? What is the bond which in so many cases connects the several diatheses of asthma, eczema, and gout?

Von Leyden[4] considers that the bronchitis found in so many asthma cases is not specific, and that the disease is not necessarily primary in the lungs, but is a reflex neurosis, the *primium movens* of which may be situated almost anywhere in the body. While asthma is almost always accompanied by a fibrinous bronchiolitis, fibrinous bronchiolitis may be, and often is, uncomplicated by asthmatic attacks.

Fraenkel[5] relates the case of a man with arthritis urica, emphysema, and chronic bronchitis, who suffered from severe attacks of asthma, in one of which he finally died. Post-mortem examination disclosed the presence of an extremely severe desquamative catarrh of the small bronchi. The collections of epithelial cells were so great as to fill the lumen of the bronchi completely, acting like tight corks. Hence it is personally believed that, in at least a large number of cases of asthma, whatever change may take place subsequently to obstruction of the bronchi, the epithelial cells are first lost. He suggests that the force of the nervous spasm of the bronchi may be capable of loosening the epithelial cells, and he thinks a nervous element present in practically all cases.

L. H. Watson[6] thinks there is little doubt that asthma represents the effect of uric acid on the circulation in the thorax, and that it is paroxysmal for the same reason that epilepsy and migraine are paroxysmal, in accordance with the natural fluctuation of the uric acid, and the amount of that substance passing through the blood. Possibly not all cases of asthma are caused by uric acid, but almost all cases are benefited by attention to the elimination of uric acid, and many cases are absolutely cured when the proper methods are adopted and certain dietary plans are accepted which shall prevent its accumulation. There is no doubt also that uricacidæmia, when it contracts the arterioles will certainly suspend gastro-intestinal digestion and absorption, and allow putrefactive processes to take place, which shall furnish toxins that will find their way into the circulation, and thus, again, act as irritants while producing high arterial tension. An asthmatic attack represents the thoracic effect of this tension. Two confirmatory facts would seem to favor Haig's hypothesis: the first is that most attacks of asthma occur at from 2 to 4 o'clock in the morning, when the uric-acid flood is at its height, and the other is that after an attack of asthma, as after a uric-acid storm, there is a flow of limpid, pale, urine in great abundance.

J. Pawinski[7] states that there exists a

[4] Med. News, June 25, '98.
[5] Zeit. f. klin. Med., B. 35, H. 5, 6, '98.
[6] Southern Med. Rec., Feb., '99.
[7] Sem. Méd., xviii, p. 142.

particular form of asthma due to auto-intoxication resulting from the chronic retention of urine. At times there may be present cardiac symptoms resembling those of cardiac asthma, which may be accompanied by sensations of pain in the præcordial region. At other times the respiration assumes a Cheyne-Stokes character. Or there may be present a purely subjective dyspnœa. Whatever character, however, the respiratory troubles of the vesical origin assume, they never assume a type of a bronchial asthma. They never yield to narcotic or cardiac remedies, but disappear, or at least diminish greatly, if care be taken to empty the bladder.

Treatment.—As a result of clinical observations, Talma[8] has reached the following conclusions:—

1. The spasm of the respiratory passages may be produced voluntarily by the majority of asthmatic patients and by many normal persons. 2. Almost all asthmatics can control the spasms even during an attack, but certainly during the periods of remission. 3. The muscles of the respiratory passages are either under the control of the will or may be brought under such control.

As a consequence of these conclusions the importance of respiratory gymnastics for asthmatic patients is patent. The number of respirations per minute must be reduced and expirations performed slower and more completely. The spasm of the muscles will thus be controlled. The speech must be regulated, and while speaking the patient must inspire slowly and deeply. The asthmatic must learn to maintain the proper tension of the muscles of the neck, chest, and abdomen.

In four cases of asthma A. de Miranda[9] employed compression of the pneumogastric nerve at the surface of the neck. The compression was accomplished by means of a finger, and yielded relief within a few minutes, even to complete disappearance of the attacks of dyspnœa.

J. C. Thorowgood[10] says in cases of asthma with overdistended emphysematous lungs and dilated heart, the capillary vessels are gorged with venous blood, the extremities blue and cold, and the discomfort of the patient is very great. The treatment should be directed to the relief of the circulation and with this purpose in view a course of mercurial pills, Carlsbad salt, and hot water every morning is directed, with tincture of digitalis.

Kingscote's[11] method of treatment in cases of asthma combined with cardiac dilatation consists in a modification of the Schott treatment with the inhalation twice daily of free oxygen-gas. The gas seems to relieve the paroxysms by supplying the oxygen of which the system is in need.

Boucheron[12] states that, if the opinion of Landouzy—that true asthmatics not infrequently have an element of tuberculosis—is well founded, there is reason to think that other toxins also may promote the asthmatic symptom-complex, and especially the streptococcic toxin. Hence an explanation of the cure of asthma in certain cases by antistreptococcic serum.

Otto Frese[13] has used iodipin (iodine addition-product of sesame oil, containing 10 per cent. of iodine) in thirteen cases of asthmatic affections. Two to three teaspoonfuls were administered daily. Iodipin possesses special advantages over the iodides ordinarily em-

[8] Berl. klin. Woch., No. 52, '98.
[9] Sem. Méd., xviii, p. 110.
[10] Brit. Med. Jour., June 18, '98.
[11] Med. News, May 21, '98.
[12] Tribune Méd., May 4, '98.
[13] Münch. med. Woch., xlvi, p. 213.

ployed. It never affects the stomach, while it causes an at times very desirable peristalsis of the intestines. Toxic symptoms were never observed to follow the exhibition of the preparation in the doses given, and even coryza was only once met with, and that transitorily. A further advantage possessed by iodipin is its sustained effective action, this being continued for some time even after the use of the remedy had been suspended.

S. Solis-Cohen[14] has successfully used the following formula in asthma:—

℞ Morphine sulph., $^1/_8$ to $^1/_4$ grain.
Strychnine sulph., $^1/_{60}$ to $^1/_{40}$ grain.
Hyoscine hydrobrom., $^1/_{200}$ grain.
M. Sig.: Give hypodermically at bed-time.

Sidney Martin,[15] in uncomplicated asthma, relies upon sedatives, such as the hypodermic injection of morphine ($^1/_4$ grain), the administration of chloral, or the inhalation of chloroform, to shorten the attack. The inhalation of the fumes of burning nitre-paper or specially-prepared powders, or of cigarettes, give relief in many cases. The powders used at the Brompton Hospital contain 1 part each of anise and nitre, 2 parts of stramonium-leaves, and 5 grains of tobacco to the ounce; 1 teaspoonful is to be burnt on a plate and the fumes inhaled. A pill containing $^1/_4$ grain of morphine, with $^1/_{120}$ grain of atropine sulphate, given at bed-time, is sometimes useful. Extract of stramonium ($^1/_{16}$ grain) may be substituted for the atropine. The use, however, of sedatives, such as morphine and chloral, and of inhalations constitute no treatment of the disease, and must be limited as much as possible, especially in the uncomplicated form of asthma, while efforts are made to benefit the general condition of the patient. Of remedies which may be continuously administered to patients who have frequently recurring attacks, two are most constantly used, namely: iodide of potassium and arsenic. The iodide may be most conveniently given with stramonium, as in the mixture which consists of $^1/_4$ grain of extract of stramonium, 2 grains of extract of licorice, 3 grains of iodide of potassium, and 5 minims of chloric ether. This mixture may be given two or three times daily in cases of asthma. It possesses two disadvantages, however. The stramonium leads, in some cases, to paralysis of accommodation, but by diminishing the dose the patient soon ceases to experience discomfort from the remedy. If given alone the iodide must be administered in 5-grain doses two or three times daily, the medicine being stopped from time to time. Arsenic by itself in doses of 3 minims of the liquor arsenicalis is a useful remedy for continuous administration in asthma, and it may be combined with iodide of potassium (3 to 5 grains) in a mixture. The insufflation of a solution of bicarbonate and chloride of sodium, if there is much nasal secretion, is frequently of service and the application of cocaine in such cases to the nasal mucous membrane helps to relieve the attacks. In children with large tonsils or with adenoids, in whom asthma supervenes, the surgical treatment of the local condition, although it may be necessary, does not of itself cure the asthmatic attacks, which may persist for months after the fauces and pharynx have been successfully treated. The removal of a nasal polypus may greatly relieve the attacks, but not a few cases persist after removal. The regulation of the diet of

[14] Med. Rec., Apr. 30, '98.
[15] Gaillard's Med. Jour., Mar., '99.

asthmatic patients is of great importance. Meals ought to consist only of digestible food, and that in moderate quantity, no heavy late meals being allowed. Remedies such as alkalies after meals given with the view of correcting the indigestion, combined with a proper diet, give great relief to cases of peptic asthma. Although the asthmatic ought to be careful as regards the food taken, it is wrong treatment to starve such a patient; only harm can come of it, inasmuch as the best chance of the patient's recovering is an improvement of his general health, and this cannot occur without a sufficiency of food. Codliver-oil often causes great improvement.

Goldschmidt[16] divides the treatment of asthma into (1) purely medicinal, (2) the physical, and (3) the inhalation treatment. Morphine is of great value in some cases, especially where the attacks are infrequent, but pronounced. If morphine is not well borne, then chloral may be used in a dose of 30 grains, to be repeated in doses of 7 $^1/_2$ grains every quarter of an hour until sleep is induced. More than 7 $^1/_2$ grains should not be given in this way. In cases of prolonged asthma with expectoration, iodides combined with expectorants and opium are often useful. Amyl-hydrate also acts extremely well, but sulphonal and trional are useless. Occasionally antipyrine and quinine may be useful. In cases where expectoration is abundant iodides may not only be useless, but harmful. The compressed-air cabinet is useful in some of the sequelæ of asthma, but not in the actual acute attack, which may be made worse by it. Hydrotherapeutic treatment succeeds in some cases of asthma. The patient should gradually be accustomed to colder baths of short duration with douches. Even when catarrhal symptoms are present the body may be vigorously sponged with water at 62° F. Warm drinks should be given at the same time. In case of an acute attack or an exacerbation the treatment is commenced with stramonium fumigation. If this fails, strong stimulation of the skin with hot water should be tried, and, if these measures have previously proved ineffective, morphine or chloral should be given.

In asthma S. Français[17] requires the patient to first sit down or take any instinctive position that suggests itself. The air of the room should be fresh and yet not cold enough to expose the patient. The room should be as light as possible. Hot foot-baths or sinapisms to the feet should be started; hot applications to the hands also. Then fumigations should be practiced, at first steam, later medicaments. The most efficacious of the powders or papers are stramonium, prepared from the leaves, and potassium-nitrate papers, 12-per-cent. solution in porous paper, and then thoroughly dried. Cigarettes consisting of the following herbs may be smoked:—

℞ Belladonna-leaves, 5 grains.
Stramonium-leaves, 2 $^1/_2$ grains.
Phellandrium-leaves, 1 grain.
Extract of opium, $^1/_4$ grain.
Cherry-laurel water, to flavor.

If these cigarettes are made with nitre-paper the value is enhanced. Solanine in capsules of 1 grain each, taking three at half-hour intervals, is recommended. Pyridina, when inhaled, has a prompt sedative action. A few drops on a cloth usually suffice.

H. Rosahnsky[18] has successfully used the following prescriptions for about

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[16] Brit. Med. Jour., Jan. 7, '99.
[17] Arch. Gén. de Méd., Jan., p. 1, '99.
[18] Western Med. Review, Jan. 16, '99.

fifteen years in asthma and spasmodic affections:—

℞ Tr. lobelia inflata,
Æther. sulphuric.,
Liq. ammon. acetat., of each, 2 drachms.

M. Sig.: Fifteen or 20 drops every half-hour in water.

At night in asthma the following is very good:—

℞ Camphor, $^1/_2$ grain.
Pulv. Dover's, 6 grains.
Sacch. lact., 10 grains.

M. ft. pulv. d. t. d. No. iv.
Sig.: One powder at night.

B. Van Sweringen[19] calls attention to a line of treatment in a very obstinate case of bronchial asthma, which was attended by remarkable results. The attack had lasted for two weeks, during which time all the antispasmodics had in turn been exhausted, and the patient had secured but a period of two hours freedom at any one time. Finally, based on the theory that if asthma was reflex it must be under the control of Setchenow's inhibitory centre, and that anything which would stimulate the inhibitory centre would lessen the reflex-spasm, quinine and strychnine were at once exhibited, and with excellent results. The dose of the quinine was 7 grains. The extract of nux vomica was given in $^3/_4$-grain doses, and to this was added $^1/_4$ grain of sulphate of codeine. In the interval the iodides were continued.

BRONCHITIS.

Treatment.—In the treatment of acute bronchitis D. J. Leech[20] thinks the quantity of acetate of ammonium usually given is too small. Less than 2 drachms does not act on the skin nor give the general relief which often results from a larger dose in the early stage of acute bronchitis. It is better to begin with doses of 3 drachms, and to increase to 6 drachms if the skin does not act freely. Drachm doses of spirit of nitre should be given; but they occasionally give rise to eructations, and there are people who cannot take it without great discomfort. In acute bronchitis in young children, where the temperature runs high and a few scattered rhonchi over the lungs foreshadow further trouble, more advantage has been obtained from antipyrine than from acetate of ammonium. After a 5-grain dose to a young child five or six years of age profuse perspiration, followed by a very marked improvement, often occurs. Antimony, in doses of $^1/_{20}$ grain, is of great service when there are abundant small basic moist sounds, and the breathing is oppressed; when there are dry rhonchi all over the chest, with irritable cough, ipecacuanha is more useful.

Leech[21] says that in chronic bronchitis the most effective and convenient method of giving ammonium carbonate is to dissolve it in water and give the solution in milk. If 60 grains are dissolved in 6 ounces of water, a tablespoonful (5 grains of the carbonate) can be given every hour or two, according to the nature of the case, in the milk which is taken by the patient. A tablespoonful of such a mixture can be added to 4 ounces of milk, without giving the milk a taste to which the patient will object. This method of giving ammonium carbonate in milk is specially advantageous when we wish to give strychnine as well as expectorants, for the addition of carbonate of ammonium to a mixture con-

[19] Indiana Med. Jour., Mar., '99.
[20] Practitioner, May, '98.
[21] *Ibid.*

taining strychnine tends to throw down the alkaloid. Squill is useful in all forms of chronic bronchitis, both in the early and late stages. When there is much dyspnœa, however, and evidence of accumulation in the bronchial tubes, ipecacuanha is of more service if given in large doses. But these doses should not be very often repeated. The inhalation of oxygen is generally commenced too late. Its early use prevents the advent of that pronounced cyanosis so often seen which, once established, may be only slightly benefited by oxygen. It thus gives patients an additional chance of life, and furthermore in most cases it gives marked relief.

Quincke[22] draws attention to the fact that in bronchitis the object of treatment is to facilitate the draining away of the exudation. Often in the early morning the bronchitic brings up a large quantity of sputum by the help, more or less, of persistent coughing. At this time the patient should lie as flat as possible for a couple of hours, to assist the draining of the secretion into the large bronchi, and hence its expectoration. The patient soon becomes accustomed to the position, and can expectorate by turning the head to one side. After a few days the foot of the bed may also be raised from eight to twelve inches. In suitable cases in from two to four weeks there is a considerable diminution in the sputum. This mode of treatment is adapted to cases of chronic bronchitis which have led to a cylindrical or sacculated bronchiectasis in the lower lobes of the lung. It is of no avail in cases of diffuse, and especially recent bronchitis with general secretion, or in cases of abscess-cavities communicating laterally or incompletely with the bronchi, or of cavities with irritating contents.

Le Tanneur[23] has cured cases of bronchitis of many years' standing with ichthyol given internally in daily amounts of not less than half a drachm. It should be administered in gluten capsules in order not to be freed in the stomach.

CORYZA.

Etiology.—E. P. Collett[24] notes the case of a physician who suffered from persistent coryza, principally unilateral, for three or four weeks. Examination demonstrated no physical cause except some stigmata on the middle turbinated bone associated with general vasomotor dilatation of membrane. Neuralgic pain in temple, malar bone, and subsequently behind right ear, supervened. A periodontitis of the first maxillary premolar was found. The extraction of the tooth cured the coryza in three days.

Treatment.—A writer[25] recommends the following prescription for coryza:—

℞ Uranium acetate, from 1 to 2 parts.
Distilled water, 20 parts.

M. Sig.: Two or three drops to be snuffed up daily.

In coryza Lemoyez[26] orders 10 drops of the following mixture placed upon a sheet of rolled bibulous paper, and the vapors inhaled in much the same way that a cigarette is smoked:—

℞ Ac. carbolic.,
Aq. ammon., of each, 1 1/4 drachms.
Alcoholis, 2 1/2 drachms.
Aq. dest., 4 drachms.—M.

In most cases, however, the following powder gives better results for abortive purposes:—

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[22] Gaillard's Med. Jour., Oct., '98.
[23] Bull. Méd., Jan. 24, '99.
[24] Lancet, Jan. 1, '98.
[25] Revue Méd., Jan. 26, '98.
[26] Med. Rev. of Reviews, Apr. 25, '98.

℞ Cocaine hydrochl., 7 grains.
Menthol, 4 grains.
Salol, 1 ¼ drachms.
Ac. boric., ½ ounce.

M. Sig.: A small pinch should be drawn up into the nose every hour.

Should the attack be severe, it is well to administer a purgative with the purpose of withdrawing congestion from the head, and to produce abundant perspiration by the use of hot alcoholic beverages, liq. ammonii acetatis, or Dover's powder.

Garel[27] gives the following formula for a snuff in coryza:—

℞ Menthol, 1 part.
Ammonium chloride or salol, 4 parts.
Boric acid, 16 parts.—M.

ERYSIPELAS.

Prognosis.—William L. Rodman[28] says that the total number of deaths due to erysipelas, in the United States Census Report just issued, was 2663. The death-rate per 100,000 inhabitants was as follows: Under 5 years, 31.34; 5 to 15 years, 0.81; 15 to 45 years, 2.80; 45 to 65 years, 8.88; 65 and over, 38.55. Very few cases occurred in colored persons, so few as to be of no value. However, of 79 deaths due to erysipelas reported in the past ten years to the health department of Louisville, 17 were colored, which is about the normal proportion.

Treatment. — Marmorek's serum was successfully used by J. L. André[29] in five cases of facial erysipelas. Complete and final decline of temperature to normal was observed save after one injection. This fall is rapid and not by lysis. The injections should be repeated at forty-eight-hour intervals. That the erysipelas may continue its evolution while the temperature remains normal was demonstrated in one instance, when, although the temperature fell, the cutaneous signs—redness and swelling—persisted for several days, but became less day by day. In general, however, all signs disappeared as the temperature fell. The serum employed varied in age from two to fourteen months. The older was less active.

W. L. Robinson[30] has successfully treated two cases of erysipelas with anti-streptococcic serum. In one patient, 16 years of age, there was abscess following extraction of tooth, discharging at two points on the neck. Redness and swelling covered one-half of the face, nose, and head. Temperature was 104.4°; pulse, 140; and there was delirium, vomiting, chilliness, etc. Ten cubic centimetres of the serum were injected at 9 P.M., resulting in fall of temperature to 100°. Next morning there was complete arrest of all symptoms, followed by prompt recovery. The second case was one of nephritis; puffed eyelids and face, and erysipelas of the thigh, which presented a hard, red, shiny swelling; delirium was also present; two injections used in twenty-four hours rendered the patient convalescent in thirty-six hours. The serum used was that of Parke, Davis & Co.

Robert C. Kenner[31] thinks that large doses of iron given with frequency in erysipelas are injurious. Hart and others of the ablest therapeutists have proved conclusively that iron in large doses is not appropriated. In Germany iron has never been trusted to bring favorable results in the treatment of erysipelas.

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[27] Independence Méd., Apr. 27, '98.
[28] Jour. Amer. Med. Assoc., Sept. 3, '98.
[29] Archives de Méd. et de Phar. Milit., No. 11, p. 340, '98.
[30] Jour. Amer. Med. Assoc., Dec. 24, '98.
[31] Med. Brief, Apr., '99.

Recently, however, ecthol, which contains the active principles of echinacea and thuja, has been successfully used in twenty-two personal cases. It should be given to adults in doses of a teaspoonful every two to four hours. In very mild cases of erysipelas a teaspoonful of the remedy every six hours is sufficient. The patients should also receive an adequate amount of nourishment. Local treatment is often of great service. A solution of acetate of potassium in the strength of 15 grains to the ounce of distilled water painted over the erysipelatous surface every one or two hours is very soothing and exerts a local antiphlogistic action.

Koelzen[32] has used metacresolanytol in the treatment of experimental erysipelas in animals and ordinary erysipelas in man. Metacresolanytol contains 40 per cent. metacresol and 60 per cent. anytin. Erysipelas was produced in animals by the injection of the streptococcus or of the bacillus of mouse-septicæmia. Treatment was commenced as soon as a florid erysipelas developed in the ear. Painting the surface with the metacresolanytol was found more efficient than injecting it into the tissues round the erysipelatous patch. When the painting was carried out every two hours, the results were very satisfactory. Microscopical examination of the tissues in the cases treated by painting failed to discover the microbes which had originally set up the disease. The treatment was then applied to five cases of erysipelas in man. At first the patch was painted for 20 to 30 minutes, and then every two hours for 10, 15, or 20 minutes, according to the size of the patch. The treatment was only continued for two or three days. If the erysipelas was very extensive, only the edges were painted. The solution used was 3 per cent. Good results were noted in all the five cases, including a severe one.

Rabinowitsch[33] treats patients who have erysipelas as follows: The affected portions of the skin are covered with moist gauze over which is passed back and forth a lighted cotton swab soaked in alcohol, until the pain is beyond endurance. This "cooking" of the inflamed skin is repeated three times in the twenty-four hours. The result is an intense local inflammation, sometimes with the formation of blisters. If the extent of the erysipelatous process is very great, the marginal regions alone are heated. The results are very good indeed. More than 200 patients have been treated in this manner.

HICCOUGH.

Treatment. — For gastric cough and hiccoughs Robin[34] gives a teaspoonful every hour of the following, never taking more than a third of the whole during the twenty-four hours:—

℞ Potassium cyanide, 75 grains.
Syrup of morphine,
Syrup of orange-flowers, of each,
2 1/2 ounces.—M.

A writer[35] reports that he has always arrested hiccough with 1 1/4 drachms of sodium bicarbonate in half a glass of Vichy water taken at one draught. The hiccough disappears with the eructations.

Louis Kolipinski[36] noted in a case of hiccough that the soft palate was congested and the uvula thickened and elongated when the hiccough occurred. The elevation of the soft palate and uvula were seen in the act. Firm press-

[32] Deutsche med. Woch., Oct. 27, '98.
[33] Revue de Thér., Nov. 15, '98.
[34] Semaine Méd., Feb. 16, '98.
[35] Bulletin, Oct. 31, '98.
[36] Maryland Med. Jour., Feb. 25, '99.

ure on the tongue caused the hiccough to cease. Under a dose of morphine and chloral the patient passed a comfortable night. An hour later the hiccough returned, but the patient placed himself in front of a mirror, passed a spoon-handle to the back of the tongue, and with both hands depressed and steadied it. The hiccough at once ceased. Two days later it reappeared, but was promptly arrested by the patient himself in the manner described. The time required in each instance to accomplish the desired result was one minute or less.

HYPERIDROSIS.*

Treatment. — An editorial[37] asserts that a 5-per-cent. solution of chromic acid, applied with a brush to the previously washed and dried feet, is the treatment which has proved successful in 18,000 Prussian soldiers. In many cases three or four applications effected a permanent cure.

Daniel Lewis[38] obtained success from the employment of aristol, as a local application, in cases of hyperidrosis of the palmar surfaces. The drug was used in form of powder, by itself or in combination with iodol, in equal parts.

In the treatment of various forms of hyperidrosis M. L. Heusner[39] has successfully employed the following mixture:—

℞ Balsam of Peru, 15 grains.
Formic acid, 1 1/4 drachms.
Chloral-hydrate, 1 1/4 drachms.
Alcohol, 3 ounces.

In cases of local excessive sweating the above mixture is applied by means of a cotton tampon to the seat of the trouble.

To combat generalized hyperidrosis it is used in the form of a spray to the whole body.

In cases of localized hyperidrosis especially refractory to treatment it is recommended to double the quantities of balsam of Peru, formic acid, and chloral-hydrate in the above formula, or to add to the latter 15 grains of trichloracetic acid.

Frank[40] states that an alcoholic solution of formalin, of the strength of from 10 to 20 per cent., will speedily check excessive sweating. Tannoform, a mixture of formalin and tannin by Merck, dusted on the affected part, acts very favorably in cases of hyperidrosis or bromidrosis.

Adler[41] has obtained good results from the use of liquid formaldehyde in hyperidrosis pedum. The affected parts should be treated twice daily with a 1-per-cent. solution of liquid formaldehyde, the result being the total cessation of perspiration in from two to three days.

Orth[42] recommends formaldehyde as an excellent remedy against the fœtor of perspiring feet. For this purpose 3 1/2 drachms of commercial formaldehyde to one quart of water is employed, a cloth or sponge being wet with it and the feet wiped off every morning, and, in troublesome cases, evenings as well, particularly between the toes. This solution will also serve to remove the odor from the shoes when applied to them.

Where sweating of the feet is troublesome Gaucher[43] says it is well to separate the toes by a small piece of lint in order to prevent maceration of the cutaneous surfaces.

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*[This subject having received but little consideration recently, it was deemed advantageous to our readers to include older literature. Ed.]

[37] Med. News, July 6, '89.
[38] Gaillard's Med. Jour., Aug., '91.
[39] Sem. Méd., xv, p. 222, '95.
[40] Monats. f. prakt. Derm., Feb. 1, '96.
[41] Prag. med. Woch., No. 39, '96.
[42] Pharm. Centralh., xxxvii, p. 306, '96.
[43] Jour. des Pract., Oct. 23, '97.

In sweating of the feet, Gaucher[44] also recommends a decoction of oak-bark, with about 5 drachms of sodium borate to each quart, as a foot-bath. After the bath the feet should be dusted with a powder consisting of 3 ounces of chalk and $^1/_2$ drachm of salicylic acid. In obstinate cases the constant current applied to the involved parts does good.

In hyperidrosis continuous use of tincture of salvia is recommended by Krahn.[45] Twenty drops are to be taken in the morning, and twenty to forty drops in the evening.

Unna[46] recommends a salve containing 10 to 20 grammes of the commercial solution of formol combined with 30 grammes of lanolin or vaselin. It diminishes the amount of perspiration and abolishes the odor, but radical cures are extremely rare.

In sweating of the feet Gerdeck[47] paints the feet with a brush three times daily, using 15 to 20 drops of formalin. Over the soles the brush should be carried four or five times, between the toes only once, and no application should be made over the dorsum. Four to 6 drops may be poured into the boots. The odor disappears, and, besides, the remedy is an excellent preservative of leather. When the pure formalin cannot be tolerated, a 30-per-cent. solution may be employed. The results last three to four weeks, when the treatment must be renewed. If excoriations are present a slight smarting sensation is produced, which, however, does not prevent walking the next day. The suppression of the sweating—according to observations made upon soldiers—appears to be without influence upon the general health.

INSOMNIA.

Etiology. — Boardman Reed[48] thinks that insomnia and other neurasthenic symptoms frequently result from the graver forms of disease of the alimentary canal, such as cancer, ulcer, gastric catarrh, dilatation, etc., in consequence of the lower nutrition which these affections induced, from starvation of the nerve-centres, consequent on impoverishment of the blood or from poisoning primarily of the blood and secondarily of all the tissues by the products of fermentation, putrefaction, and suboxidation.

Treatment.—A new method of inducing sleep, personally tested by J. B. Learned,[49] is to cause muscular fatigue by exercises carried out in bed. Lying on his back, the patient first reaches for the foot- and head- board at the same time. He then raises his head half an inch at the same time he breathes slowly and deeply about eight inspirations to the minute, which are counted. After about twenty inspirations, the head, which begins to feel heavy, is dropped. The right foot is then raised (the reaching for the boards and counting being continued) and similarly dropped when fatigued. The left foot goes through the same process. The muscles which are used in reaching for the head- and foot-boards are then relieved, and the body is elevated so that it rests on the head and heels. He then turns on the right side and reaches for the head-boards and foot-boards again, and raises first the head and then the foot as before. The same process is gone through on the other side. If sleep has not been induced, the same cycle is gone over again.

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[44] Jour. des Pract., Oct., '97.
[45] Ther. Monats., Mar., '97.
[46] Sem. Méd., Feb. 23, '98.
[47] La Riforma Medica, No. 38, p. 455, '98.
[48] N. Y. Med. Jour., May 16, '96.
[49] Med. and Surg. Reporter, Dec. 4, '97.

The use of hypnotics in insomnia is simply the use of symptom remedies: insomnia is a symptom, not a cause of disease, nor a disease. The use of hypnotics, therefore, according to a writer,[50] should be temporary, while the underlying cause of the insomnia is being removed or palliated. Before employing hypnotics, other measures should be tried. One of the best is a bath at 104° F. for five minutes. The general cutaneous vascular dilatation, increased by rubbing with a coarse towel, is frequently followed by a good night's rest. Warm liquid food, as a glass of milk or a bowl of soup, will often give satisfactory results. In debilitated persons a glass of stout or whisky in hot water may work wonders. Sometimes stimulation of the emunctories, as by sodium sulphate, given in hot water taken at night, will be followed by sleep, particularly in gouty subjects. Methods which relieve pain—position, topical applications—are hypnotic. Chloralamid, pellotine, paraldehyde, and trional are the safest hypnotics.

Robert T. Edes[51] believes that a normal and sufficient general nutrition is to be looked for as the basis for normal cerebral nutrition. A useful criterion is the body-weight in reference to the height and usual or normal condition of the person, and diet is to be regulated upon this basis. Secondly, the distribution of the blood is to be equalized, with the balance, however, tending to anæmia of the brain rather than the reverse, though by no means to an extreme. The derivation of blood may be accomplished by hot baths of the feet or of the lower half, or even the whole body, emphasized, if necessary, by a little mustard. A small amount of easily digestible food just on going to bed, or on waking up in the course of the night, probably acts in the same way. A hot toddy adds to a slight direct narcotic effect the early vasomotor dilating action of alcohol. It is well to promote the circulation in cold feet by a hot bath for five minutes, followed by a short, cold douche and friction, rather than simply to attempt to warm them by hot bottles.

Of the hypnotics which narcotize the nervous centres, the bromides—the potassium salt preferred—given in two or three doses during the latter part of the day, and in many chronic cases through the day, are valuable. If there is much nervous excitability and restlessness during the day, a bromization lasting a few days or a week or two is occasionally admissible. Sulphonal used with care is little likely to do harm, except that which attaches to any habit of this kind or dependence upon artificial aids to sleep. Fifteen grains are sufficient, and its use should not be prolonged beyond an emergency period of four or five days without an interval of more than two days.

In insomnia in advanced arteriosclerosis Edgren[52] induces refreshing sleep without morphine by using rectal injections at night of antipyrine, 15 grains; diuretin, 15 to 30 grains; or chloral, 30 to 45 grains.

Christiani[53] has given lactophenin for insomnia in over 200 cases of insanity with very good results. The dose given varied from 1 to 3 grains, being administered in some sweet emulsion. Sleep that had all the characters of a natural slumber followed in a very short time, lasted from four to nine hours, and was not succeeded by any bad effects. He has used it in all kinds of mental cases

[50] Post-graduate, May, '98.

[51] Jour. Amer. Med. Assoc., vol. xxxi, p. 757, '98.

[52] Semaine Méd., Oct. 26, '98.

[53] Riforma Medica, June 16, '98.

and in different physical conditions,—for example, cardiovascular, kidney, and other diseases. It is quite safe, and, as it has no taste or smell, it is not difficult to administer.

LARYNGITIS.

Treatment.—T. J. Gallagher[54] has found formaldehyde an excellent remedy in tubercular laryngitis. The treatment is begun with solutions of from $^1/_2$ to 1 per cent. and gradually increased until a strength of 10 per cent. is applied. When strong solutions are used the larynx should be cocainized before their application. Weak solutions of a single drop of liquid formaldehyde in an ounce of water have an anæsthetic power that produces exceedingly gratifying results when used as a gargle or spray in advanced cases, where swallowing is painful. The use of such solutions enables the patient to avoid the discomfort and the constant use of cocaine.

A danger is attached to the continuous and indiscriminate use of this agent in that it produces gangrene of the parts. It is safe to allow the patient to use a mild solution of 1 to 500 two or three times a day. Its most brilliant results are to be seen in the vegetative and ulcerative types, but very satisfactory results occur in infiltrative cases. The stronger solutions, from 1 to 10 per cent., should be applied two or three times a week, as deemed expedient.

Klaussner[55] calls attention to a new preparation of orthoform introduced by Heinz and Einhorn. The new preparation is said to have the following advantages over the old: 1. The powder is more homogeneous, whiter in color, and does not form in lumps to such an extent. 2. It is much cheaper, and, since its action is manifested in a 10-per-cent. to 20-per-cent. mixture with starch or other powder, its price is no longer prohibitive. Orthoform as a local anæsthetic has proved serviceable in a great many internal and external painful affections. Neumayer and others have found that, insufflated in tuberculous laryngitis accompanied by severe pain, it causes anæsthesia for 18 to 36 hours, allowing solid food to be taken with comfort and thus improving the general health. Orthoform has the great advantage over cocaine in being non-poisonous.

Holbrook Curtis,[56] in cases of painful laryngitis in singers, uses an extract of the suprarenal capsule applied to the mucous membrane of the larynx. In the nose, a ten-minute application causes a marked blanching, much more pronounced than the pallor of cocaine. He also has employed it frequently in mild laryngitis with marked benefit.

C. C. Rice[57] has found the following prescription of use in chronic laryngitis:—

℞ Thymol, 15 grains.
Eucalyptol, 20 grains.
Creasote, 2 drachms.
Ol. pini sylvestri, 4 drachms.
Ol. gaultheriæ, 1 drachm.
M. Sig.: For inhalation, 2 to 5 drops.

MYXŒDEMA.

Frederick Bierhoff[58] states that the view that cretinism, myxœdema, and goitre (so called) are but varieties of the one disease is gaining adherents, as close study into these conditions reveals the similarity in many of the symptoms and the excellent results obtained in their treatment by the same therapeutic means. The accepted cause of the condi-

[54] Jour. Amer. Med. Assoc., xxxi, p. 476, '99.
[55] Münch. med. Woch., Oct. 18, '98.
[56] Brit. Med. Jour., Oct. 22, '98.
[57] Amer. Med. Compend., Feb., '99.
[58] Jour. Amer. Med. Assoc., Nov. 19, '98.

tions is either absence of, or disease of, the thyroid glands. If the gland is congenitally absent, we get the condition known as true cretinism, either congenital or sporadic. When the changes in the gland occur early, we have the cretinoid condition, or early myxœdema; when these conditions occur in persons who have attained full physical growth, we have myxœdema. In the adult myxœdema is nearly always found accompanied by a reduction in the size of the thyroid gland. In the Clinical Society's report, of 59 cases of myxœdema noted, 4 showed enlargement of the gland and in 3 of 22 of the total number of cases the gland had previously been enlarged. It is very probable that in these cases of enlargement, without exophthalmos, we have to deal with a gland in the early or hypertrophic stage of cirrhosis. When this enlargement or hypertrophy is not general, we probably have to deal with a simple hypertrophy of the functionating portion of the gland consequent upon changes in another portion. The presence of a goitre does not of necessity presuppose myxœdema, since that portion of the gland which remains may suffice in secretory power to continue the patient's normal health, but where the entire gland takes part in the process, the patient's health must suffer.

A trial of the thyroid extract, in cases of goitre, without exophthalmos, in children is fully justified.

Munk[59] absolutely denies that the removal of the thyroid in animals either necessarily causes death or inevitably leads to myxœdema. He has never seen myxœdema develop in animals. He denies, too, that the feeding of thyroid or the grafting of the removed gland into another part of the body ever lessens the dangers of thyroidectomy, which always remains a serious operation. There is no question either, to his mind, of the compensatory hypertrophy of any other organ or set of organs to replace the function of the thyroid in an animal which survives thyroidectomy. He has a number of animals alive after the operation, and has been especially successful in the case of apes, who have survived, and are in good health nearly a year after the careful, complete, but thoroughly aseptic, removal of the supposedly absolutely essential thyroid.

Mosse[60] noted the case of a suckling child, 3 months old, affected with a large bilobed goitre. The mother also had one, without myxœdema, but with enfeebled intellect. The medication consisted of the daily administration to the mother of 2 tabloids, representing about 22 $^1/_2$ grains of thyroid body. After a month and a half the mother's goitre had diminished, and the effect on the infant was remarkable. After a second period of treatment the nursling was completely cured.

RACHITIS.

Symptoms. — A. H. Tubby[61] calls attention to the frequent occurrence of a pad-like formation upon the dorsum of the foot, and occasionally upon the hand, in rickets. In these cases the soft tissues upon the dorsum are decidedly thicker than in healthy children, and the swelling may be a flattened elevation or dome-like in appearance. Its color is that often seen in the skin elsewhere in rickets, and may be compared to that which would be produced by the injection of white wax, slightly tinted to a yellowish shade, beneath the skin, so as

[59] Virchow's Archives; Ther. Gaz., Jan. 15, '98.

[60] Gaz. Hebdom. de Méd. et de Chir., Apr. 17, '98.

[61] Pediatrics, Jan. 1, p. 19, '99.

to give it a distinct tint and a semitransparent look. While in a healthy child the skin of the dorsum of the foot, if pinched up between the fingers, can be moved independently of the subcutaneous tissue, in many rickety children the skin and subcutaneous tissue are quite inseparable, and only a more or less thick fold composed of both can be made. In many cases it appears as if solid œdema were present in the skin and subcutaneous tissue.

This pad in some cases originates in swelling and thickening in the neighborhood of the epiphyses of the metatarsal bones; hence it is more frequently seen rather toward the anterior than the posterior part of the dorsum. In early rickets the swelling is often semifluid. In cases of a few months' duration it is semisolid, and in those of more than a year's duration it is hard and resistant. At a period of eighteen to thirty-six months after the onset of the disease the subcutaneous pad disappears concurrently with the general flabbiness and undue pallor of the skin, and leaves the bony changes easily apparent to the touch.

Etiology. — Mercoli[62] believes that rickets is due to infection from the presence of streptococci and staphylococci. These organisms are constantly found in the mouths of children and the mammary ducts of nursing women, and are swallowed. As long as the alimentary canal is healthy nothing happens; but if this is out of order from catarrh, dentition, etc., and if in any way these organisms find their way into the blood and are localized in all the organs, but especially in the parts of greatest functional activity, the disease is produced.

Charles O'Donovan[63] states that he is more and more inclined to lay the chief blame for rickets rather upon the faulty assimilation of improper food than upon an unsanitary condition of the household. This conclusion has been reached entirely from a clinical stand-point and after collating the evidence offered by a large dispensary clinic of excellent material. Babies of the poorest class are frequently seen who live in the worst condition imaginable, as far as concerns hygiene, and who, being suckled by the mother without additional food, show no signs of rickets, and, in contrast, others much better situated in their home surroundings, and whose history shows improper alimentation, are distinctly rachitic.

J. L. Morse[64] states that four hundred consecutive infants under two years of age, medical out-patients of the Infants' Hospital, were examined for evidence of rickets. Eighty per cent. showed more or less marked signs. A rosary was present in every case. It was the only symptom in 40 per cent. It was accompanied by one other symptom in 20 per cent. The single associated symptom was most often delayed dentition; next, enlargement of the cranial eminences. Delayed dentition occurred in more than 50 per cent. Large fontanelle, large eminences, retraction at the diaphragm, and enlargement of the epiphyses of the extremities were each present in about 15 per cent., but were symptoms of later development. Marked rachitic deformities were rare. Breast-milk was a part of the diet in 43 per cent., and formed the whole in 18 per cent. The only influence acting on all alike was improper hygienic surroundings. Race and diet are unimportant causes.

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[62] Gaz. degli Osped. e delle Clin., Jan. 30, '98.

[63] Jour. Amer. Med. Assoc., Mar. 18, '99.

[64] Boston Med. and Surg. Recorder, Feb. 16. '99.

M. Babeau,[65] from clinical observations and from analyses of urine and fæces, reaches the following conclusions in regard to the pathogenesis of rickets:—

1. We can, in rickets, distinguish several periods:

(*a*) A primary rachitic period, in the course of which a child, up to that time healthy, eliminates lime in excess, either by the urine or by the fæces.

(*b*) A secondary period of confirmed rickets (properly so-called), during which are produced deformities and spontaneous fractures consequent on this exaggerated loss of lime.

(*c*) A third period without abnormal loss of lime by urine or fæces, the deformities being the sole indications of an anterior rachitic period in a subject whose nutrition has become normal again.

2. In each of the phases of the disease we establish a relation between the chemical composition of the bones and the variable elimination of lime in these different phases.

3. In most rachitics we find digestive troubles at the onset of the disease.

4. The increased elimination of lime by the fæces is explained by these digestive troubles themselves and is due to defective absorption of the lime or its salts.

5. The increased elimination of the salts of lime by the urine is due to a state of acid diathesis (Baumel).

6. The cure results from a re-establishment of the normal state of the digestion, of the absorption, and of the alkalinity of the blood.

Jackson Clarke[66] views the adenoid vegetations so common in rickety children as part of a wide-spread tendency to hyperplasia of lymphoid tissue in rickets.

Treatment. — Reginald H. Sayre[67] thinks that careful inspection of children who are brought for examination will often detect the presence of rickets, and the institution of proper diet and mode of life will prevent incipient deformities from becoming marked. In these cases codliver-oil is of very great benefit, and should be tried, except possibly in extremely hot weather. Phosphorus has personally yielded decidedly good results, though in almost all instances the child's mode of life has been such that it has been necessary to correct errors in diet at the same time. The form of phosphorus used has been the elixir of phosphorus of the "National Formulary," and is as follows:—

℞ Spirit of phosphorus, $3\,{}^{3}/_{4}$ ounces.
Oil of star anise, 16 minims.
Glycerin, 9 ounces.
Aromatic elixir, q. s. ad 16 ounces.

Each fluidrachm contains $^{1}/_{50}$ grain of phosphorus. Children a year old can take $^{1}/_{100}$ grain of phosphorus three times a day with no bad results, and in children somewhat older $^{1}/_{50}$ grain may be given three times a day, with great benefit. Small children with rickets ought to be kept in the recumbent position and receive daily massage. In many of these cases slight antero-posterior or lateral curvatures of the spine can be detected, and in such nothing is so useful as the wire cuirass, as it permits the child to be carried out-doors for fresh air and sunshine.

Curves in bones in children before they have begun to walk may be reduced in slight cases by manipulation by the hand. This sort of manipulation, in the

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[65] Jour. de Clin. et de Ther. Inf., No. 38, Sept. 22, '98.

[66] Brit. Med. Jour., Jan. 8, '98.

[67] Pediatrics, Aug. 15, '98.

great majority of cases, however, must be supplemented by instrumental aid to retain the improved position that has been secured by the hand.

After the child has begun to walk, and a decided knock-knee or bow-leg is present, and it is found that the bone is at all springy, a plaster-of-Paris bandage, extending from the toes as high as possible on the thigh, may be used, the leg being bent as nearly straight as possible while the plaster sets. If it has not been possible to wholly correct the deformity in this manner, after the expiration of a day or two, the plaster shell should be cut through the point of greatest deformity, and, the leg being bent toward a straight line, a gap at the point where the plaster has been divided is opened. Into this gap a small plug or wood is inserted, and a few turns of the plaster bandage applied to unite the upper and lower parts of the splint. It is necessary to protect bony prominences from undue pressure, and not to correct the deformity to such an extent as to cause pain to the child after the bandage has been applied. After a week or ten days this process may be repeated until the legs have been brought to a normal position. In cases of children whose bones are sufficiently hard to make it wise to allow them to walk, it is not practicable, as a usual thing, to apply a brace and strap to a bow-leg or knock-knee in such a manner as to exert force upon the bone sufficient to be of much benefit, and this plaster dressing is much cheaper and more effective.

In some cases of lateral curvature the underlying cause of the deformity is evidently rickets. In such cases, in addition to exercise, gymnastic training, and diet, the spine should be supported by a plaster-of-Paris jacket, which should be worn until the soft stage of the disease has passed, irrespective of the time this may require.

In cases of knock-knee and bow-legs, where the deformity has been corrected, it is often advisable for the child to wear a slight supporting brace, for the purpose of preventing the return of the deformity, and to this end instruments with joints are very useful. If the patient has passed to the latter stage of the disease, and eburnation of the bones has taken place, the bone must be broken either by an osteoclast or a chisel. In the after-treatment of these cases, whether osteotomy or the osteoclast be employed, it is always wise to run the splint well up on the thigh in cases of knock-knee and high up on the thigh in cases of bow-legs, in order to hold the bones in such position as to correct the deformity. In cases of bow-legs in very small children it is often a good plan to fasten the plaster-of-Paris shoes to a cross-bar by means of which the legs of the child can be kept at right angles to its body by suspending them from a rod at one end of the bed.

According to A. H. Tubby,[68] all forms of curvature in rachitis except the marked anterior are amenable to mechanical treatment when the bones are soft. Constitutional treatment with local manipulation is advisable for babies who have not yet walked. The usual constitutional means of alleviating rickets must be carried out fully, while the legs should be bathed and rubbed night and morning, and the nurse instructed to hold the leg at the knee and ankle and, using the thumbs as a fulcrum, to make gentle attempts to straighten the leg. A record of the curvature, by means of either photographs or tracings, ought to be taken from time to time, and if the

[68] The Hospital, vol. xxiv, No. 624, '98.

curve show any increase, mechanical supports are required. Constitutional treatment with mechanical supports and manipulative treatment is called for when a curve, originally slight, is becoming marked; when a child is weighty, and cannot be kept off his legs; when the curve is located in one part of the bone more than another; and when the child is under four years and the bones are not hardened. All the forms of apparatus act on the principle of taking their fixed points from two bony prominences and drawing the curve toward the support. Provided this is efficiently done the child should be allowed to use the legs, as free movement by them encourages that improved nutrition which more than counter-balances any of the bad effects of the body-weight.

The simplest form of apparatus is an inside wooden splint from the internal condyle to the internal malleolus for external curvatures, and the reverse for an external curvature. But in many cases the deflection of the bone is as much anterior as lateral. The single splint then is inefficient, and the difficulty may be overcome by using a splint of the following construction: Two straight pieces of wood or tin of suitable length and width are joined together so as to make an elongated rectangular splint. If the curve is an antero-external, the splint is put on the inside and back of the leg only. By the pressure of the bandage the curvature is drawn toward the angle of the splint. In those cases where a marked anterior curvature exists, with elevation of the heel, mechanical appliances are of little or no value.

Operative interference is called for when the bones are so hard that mechanical treatment is out of the question, in children over four years of age, in cases of severe anterior curvature, and in marked instances of lateral curvature. The majority of surgeons prefer osteotomy, but some elect to perform osteoclasis. Osteoclasis is inadmissible (1) if the curvature is close to a joint or epiphysis, (2) if the bone is very hard or firm, (3) if there are several curves in a limb, and (4) if the curve is anterior.

In infantile rickets Lop[69] employs the formula according to the method of Kassowitz, which consists of:—

℞ Phosphorus, $^1/_{20}$ grain.
Lipanin, 1 ounce.
Powdered sugar,
Powdered gum arabic, of each, $^1/_2$ ounce.
Distilled water, $1\,^1/_2$ ounces.—M.

In cases in which the digestive apparatus is in good condition he administers, in addition and as a vehicle for the phosphorus, codliver-oil. Two grains of phosphorus are dissolved in a quart of the oil, and then 1 or 2 teaspoonfuls are given. Should there be any evidences of gastro-intestinal or other derangement produced by the phosphorus treatment, it is temporarily stopped for from four to twelve days. In a large proportion of cases treated good results were not obtained until after the treatment had been maintained for a great many months. Seven of his patients presented very marked improvement after eighteen to twenty months of treatment. Five others showed moderate symptoms of improvement after ten months, and one of his patients died of lienteric diarrhœa.

A writer[70] states that a number of years ago Wegner noted the changes which are produced in the bones of animals by the ingestion of phosphorus,

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[69] Revue de Thér. Medico-Chir., Nov, 1, '98.
[70] Jour. de Méd. de Paris, Oct. 16, '98.

and thought that it would prove a valuable remedy in the treatment of rickets. Kassowitz, who applied this theory, obtained excellent results in infantile rickets by giving $^1/_{50}$ of a grain of phosphorus a day. By this treatment the symptoms of rickets rapidly disappeared. On the other hand, Baginsky has employed phosphorus to combat rickets and observed 8 cases out of 72 which presented slight amelioration. Leray observed 25 cases, among which 7 seemed to be benefited, while in the remaining 18 the results obtained from the administration of phosphorus were doubtful or of no value. Weiss, in 7 cases, obtained only 1 positive result; yet Swetchen has observed 41 cases, with 4 cures, 24 improvements, and the remainder not benefited. It is evident that phosphorus is not a specific in this condition, but it may be employed as an adjuvant to other treatment.

Miwa and Stoeltzner[71] conducted a series of experiments in Heubner's laboratory by giving phosphorus to rabbits and hens, and then after a time examining the bones of these animals to discover the changes therein produced by this drug. In comparing the bone-lesions observed in these animals with those of rachitis and those produced in phosphorus-workers, it was found that under the influence of this drug the normal spongy tissue was replaced by a sclerotic tissue, and that this effect was produced wherever the bones had a tendency to porousness. As osteoporosis and osteosclerosis are antagonistic processes, phosphorus may be considered as a direct remedy against osteoporosis. In rickets, however, the anatomical lesions are quite different, and, therefore, phosphorus cannot be considered a direct or specific remedy in this affection.

In a case of acute rickets Young[72] used modified milk with excess of fat from the Walker-Gordon laboratory, together with a modified diet, a salt bath in the morning, and an oil-rub at night, which caused an immediate disappearance of all the acute symptoms within forty-eight hours. The temperature also fell to normal and remained so.

STOMATITIS.

Etiology.—B. B. Davis[73] notes the case of a married woman who had had four children. Several times before the birth of the last child attacks of stomatitis coincided with menstruation. For three years after this she suffered from severe ulcerative stomatitis, involving the tongue and the whole of the buccal mucous membrane. The first sign of the molimen was soreness of the mouth appearing five days before the menstrual flow. The attack was at its height at the end of menstruation, at which time the mouth was full of small, dirty ulcers. All medical treatment had failed, and as the patient was losing ground, the tubes were removed. Both ovaries contained cysts about the size of a duck's egg, and the right Fallopian tube contained a mass of blood-clot which was not a tubal gestation. The patient completely recovered. This cyclical character of the stomatitis may have been a feeble attempt at vicarious menstruation.

According to Jesonick,[74] gonorrhœal stomatitis has been found for the most part in newly-born infants with gonorrhœal conjunctivitis, or in adults after illegitimate coitus. In the case of a man suffering with gonorrhœa of the urethra and one conjunctiva, the opposite con-

[71] Jahrbuch f. Kinderheilk., B. 47, S. 153.
[72] Med. Times, July, '98.
[73] Med. Times, May, '98.
[74] Deutsches Archiv f. klin. Med., B. 64, H. 1 and 2.

junctiva became affected, pain was complained of in both maxillary joints, and finally the stomatitis developed. The disease caused the mucous membrane of the lips, the gums, and the tongue to swell enormously; the carunculæ sublinguales were enlarged, and there were confluent whitish, somewhat raised, map-like plaques on the dorsum of the tongue. The process did not go on to ulceration, and had completely healed in ten days. This rapid cure has been the rule in every case.

There were three possible methods of infection in this case of gonorrhœal stomatitis: (1) through the nasal duct; (2) by metastasis, and (3) by direct infection of the mouth with the conjunctival secretion. The last named is the most probable. Great importance was attributed to the previously existing gonorrhœal arthritis, which prevented the mouth's being fully opened, and consequently being kept properly clean.

Martyn[75] relates a case of stomatitis following the administration of antipyrine. The man was suffering from rheumatic neuralgia and was given antipyrine in mixture. On the next day three or four patches of superficial stomatitis appeared on the buccal mucous membrane and two or three on the hard palate. No erythematous rash appeared. Only 40 grains of the drug were given.

P. Ritter[76] notes two cases of stomatitis due to milk, which were unusually hard to cure. The first was that of a child, $1\,^1/_4$ years old, who drank large quantities of milk. The lower jaw presented a necrosis of the gum, and a few teeth were loosened. Painting the gum with undiluted tincture of iodine and carefully cleansing it with a solution of permanganate of potash cured the affection, although two of the loosened teeth had to be removed. The second case was that of a girl, 25 years of age, who had been ordered a milk cure. A week after taking raw milk the gums began to swell, and eight days later fever came on. In spite of the application of a solution of alum, the affection invaded the throat, and chills occurred. The whole mouth was covered with an aphthous deposit, and particularly the region of the lower wisdom teeth bulged out and was covered with gray plaques. Painting the parts with undiluted tincture of iodine conjoined with a mouth-wash, consisting of acetate of alum, effected a cure.

Treatment.—In a severe case of gangrenous stomatitis Fordyce H. Benedict[77] obtained a successful termination by giving internally a saturated solution of potassium chlorate, with the addition of the tincture of the iron chloride. Locally he swabbed the mouth thoroughly with pledgets of cotton soaked in hydrogen peroxide, allowing the effervescence to cease entirely before proceeding farther. He then dried the mucous membrane as thoroughly as possible, and applied a solution of silver nitrate, 60 grains to the ounce, morning, noon, and night. In the intervals of these applications he used an antiseptic wash very frequently. Later tincture of iodine and glycerin were added to the silver-nitrate solution. For several days there was a slight improvement of all the conditions, and, at the end of a week, the patient began to improve rapidly.

A writer[78] gives the following prescriptions for aphthous stomatitis:—

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[75] Brit. Med. Jour., Sept. 17, '98.

[76] Pediatrics, Mar. 15, '99.

[77] Med. World, Apr., '99.

[78] Gaz. Hebdom. de Méd. et de Chir., Feb. 6, '98.

℞ Borax, 4 parts.
Tincture of benzoin, 2 parts.
Distilled water, 10 parts.
Syrup, 20 parts.
M. To be applied five or six times a day.

In grave cases the following may be employed internally:—

℞ Potassium chlorate, 1 part.
Distilled water, 90 parts.
Raspberry-syrup, 10 parts.
M. A teaspoonful every two hours.

Cyclopædia of Current Literature.

ADDISON'S DISEASE IN CHILDREN.

Treatment.—The past treatment in Addison's disease in children has, for the most part, been palliative. The constitutional treatment consists of administration of tonics and hæmatic stimulants, among which stands first arsenic. For irritability of the stomach, liquor calcis, carbonated water with a little brandy, bismuth, creasote, opium in small doses, and dilute hydrocyanic acid (with caution) may all be used. For the constipation it is wiser to use enemata. Cathartics are to be avoided absolutely, as the profound depression following their exhibition may be fatal.

The diet should be simple, and consist of nourishing soups, milk, eggs, meat-jellies, koumyss, matzoon, and peptonized foods. The administration of adrenals produces effects that may be summed up as consisting of increase of vasomotor power, slowing of heart-beat and increase of blood-pressure. The best form of adrenal gland for administration is the dry extract compressed into tablets. The dose should begin with 2 1/2 grains, and be slowly increased to 12 or 15 grains per diem (Oliver). While it is too early to speak of cases as cured and to look upon this treatment as specific, some notable results have been obtained. The strength of the patient increases, muscular tone is restored, and in a few cases the patient has apparently been cured.

Logically the proper treatment is surgical treatment. In the majority of cases, there is present a disease (tuberculosis, neoplasms) that may sooner or later invade the general economy and cause death in this way, even if the patient successfully combats his Addison's disease for a time. Accidentally, this gland has been removed. A tuberculous adrenal, which appeared as a tumor, lying directly on the spinal column, was removed. The patient who was suffering from Addison's disease recovered, and at end of eight months no evidence of the disease remained. August Jerome Lartigau and William H. Happel (Albany Med. Annals, Feb., '99).

ADENOIDS AND ENLARGED TONSILS IN PRODUCTION OF ENURESIS.

In studying the question as to whether enlarged tonsils and adenoids produce enuresis, the following conclusions are reached:—

1. In 350 cases of enlarged tonsils enuresis was present in 104.

2. But only 157 out of these 350 were pure tonsil cases, the remaining 193 were complicated in some form or other.

3. Of the uncomplicated (157) cases only 26 had enuresis, while in the other (193) cases enuresis was found not less than 78 times.

4. In "complicated" cases of enlarged tonsils and adenoids enuresis occurs at

the rate of 40 per cent.; in uncomplicated cases at the rate of 16 per cent.

These figures tend to show that one is hardly justified in enumerating enlarged tonsils among the foremost causes of enuresis.

In collecting notes for this paper there were found notes on 23 cases in whom the tonsils had already been removed and who, from five to nine months after the operation, developed enuresis, some (5) without any apparent cause, the others (18) during convalescence from acute infectious diseases. These cases have not been included in the above. When enlarged tonsils and adenoids obstruct the breathing or are the seat and source of constant or recurrent irritation, they ought to be removed, and that as soon as possible; but in cases of enuresis coupled with tonsillar hypertrophy one should have recourse to tonsillotomy or adenoidectomy only when all other possible organic or constitutional causes can be excluded, unless the operation is imperatively demanded by one of the causes which have just been enumerated. Ludwig Freyberger (Treatment, March 9, '99).

ADENOIDS, POST-NASAL.

The facial appearance of a child suffering from marked post-nasal adenoids is most characteristic. The broad and flattened bridge of the nose; the drooping upper eyelids, from the drawing down of the inner canthus; the mouth left ajar, and the manifest difficulty of hearing all combine to give the patient a curiously vacant semi-idiotic look, which is very striking. In a typical case these appearances, combined with a peculiar "dead" quality of the voice, as if a cold in the head were present, so that "*m*" becomes "*eb*" and "*n*" becomes "*ed*," will lead us far in the direction of a correct diagnosis. But in doubtful cases the history, as elicited from the parents, may prove of value. There will probably be an account of constant discharge from the nasal passages of mucus or mucopus; also a history of noisy snuffling respiration and snoring at night. And the deficient aëration of the blood, owing to the stenosis of the nasal passages, leads further, to attacks of "air-hunger," which are evidenced by suffocative night-terrors. Lastly, there is an inability to fix the attention, a general backwardness, to which Guye has given the name aprosexia.

If the surgeon decide that a digital examination is indicated in a case where the diagnosis is doubtful, it is necessary to wrap a fold or two of handkerchief around the proximal phalanx of the forefinger of the right hand, care being taken that the folds are not voluminous enough to prevent the finger's being inserted in its whole length. Then, standing on the right hand of the patient (who is seated), with the left hand lightly resting upon his head, so as to grip it firmly if necessary, the surgeon passes his finger rapidly backward, palm upward, not to the uvula, as is frequently done, but behind the right posterior pillar of the fauces; the finger, on being rotated upward will then slip behind the velum. The surgeon should now feel for the septum, and pass the finger upward until the growths are impinged upon, when the sensation will be something akin to that of a varicocele, and on withdrawing the finger the presence of blood, if present, will confirm the diagnosis. Eugene S. Younge (Medical Brief, Apr., '99).

APPENDICITIS, CHRONIC.

Etiology. — Chronic appendicitis is present in from 80 to 90 per cent. of women with symptom-producing mov-

able right kidney. This frequency constitutes chronic appendicitis one of the chief, if not the chief, symptom of movable kidney. Twenty per cent. of all women have movable kidney or kidneys; 4 per cent. of all women have symptom-producing movable kidney or kidneys; 4 per cent. have appendicitis; while 3 $^1/_2$ per cent have both symptom-producing movable kidney and appendicitis. Only $^1/_2$ per cent. of all women have appendicitis and well-anchored kidneys. A movable left kidney never produces appendicitis. Movable right kidney probably produces chronic appendicitis by indirect pressure upon the mesenteric vein, the return-circulation of the appendix being hampered by compression of the vein between the head of the pancreas and the spinal column. George M. Edebohls (Post-graduate, Feb., '99).

CARBOLIC-ACID POISONING.

Treatment.—A boy, aged 16 years, swallowed 1.5 ounces of carbolic acid. When seen at the end of thirty minutes he was in a limp and comatose state, the pulse being imperceptible. A pint of cream was at once poured into the stomach. Dry heat and friction were applied to the legs and arms. In two or three hours consciousness returned. The administration of cream and unskimmed milk was continued at short intervals for several hours. The patient entirely recovered in two days. It has been found that an adult can take 4 drachms of pure carbolic acid mixed with cream and glycerin, or with alcohol without any toxic symptoms developing. Harnsberger (Charlotte Med. Jour., Feb., '99).

CEREBRAL TUMOR.

Diagnosis.—In the diagnosis of cerebral tumor there may be said to be two classes of cases in which a mistaken diagnosis has been made: One in which no tumor exists, but other diseases are mistaken for it; the other, in which a tumor is present, but the symptoms are ascribed to some other disease, or there is a mistake in localization, or, finally, is some uncertainty as to the nature of the tumor. Among the diseases that may simulate brain-tumor may be mentioned chlorosis, especially if it is associated with intense headache and with hysterical motor or sensory symptoms; uræmia, with intense headache, optic neuritis, convulsions, and coma; chronic lead poisoning, if associated with lead encephalopathy, with convulsions, delirium; sometimes acute mania and coma with optic neuritis and severe headache; hysteria, particularly when there is headache, vomiting, convergent strabismus, and various motor and sensory disturbances; reflex epilepsy, in which the convulsions are unilateral; and many anomalous cases. Syphilis of the cranial nerves with severe headache, but with no signs of cortical irritation, may simulate the earliest signs of brain-tumor, and also meningitis or brain-abscess, especially if slight optic neuritis is present, and if the symptoms are of slow onset; finally polioencephtine tumor. Of those symptoms due to brain-tumor, the other diseases mistaken generally include hysteria, reflex epilepsy, hydrophobia, senile dementia, circulatory changes, and ear disease. In many cases the tumor is present, but there has been a mistake in its location, and therefore it has not been found at the operation. Ernest Septimus Reynolds (Brit. Med. Jour., Feb. 11, '99)

CHANCRE OF THE TONSIL.

Diagnosis.—Whatever be the appearance of chancre of the tonsil, whether it presents the appearance of a large, follicular amygdalitis, is erosive, ulcerative,

vegetating, diphtheroid, whether it is accompanied or not by rigors, fever, malaise, etc., symptoms not noticed as occurring in chancres of other regions, there are three signs which justify a diagnosis of chancre of the tonsil: These are: (*a*) the unilateral nature of the lesion, (*b*) the induration of the tonsil, and (*c*) the presence of the characteristic glandular induration. In face of a lesion of the tonsil which appears suspicious—eroded, excrescent, or ulcerated—in face of an acute amygdalitis whose characters are any way unusual we should always think of a syphilitic chancre of the tonsil if we wish to avoid a serious error of diagnosis. Dieulafoy (Bulletin de Laryngologie, d'Otologie, et de Rhinologie, Dec. 31, '98).

CHONDRO-DYSTROPHIA FŒTALIS.

An interesting case of chondrodystrophia fœtalis has been lately noted in a newborn child. It presented an abnormal development of all the bones of the skeleton; they were soft and flexible, like wax; some months later they had become somewhat harder, but were now fractured by very slight injuries. The upper as well as the inferior extremities were abnormal,—short and thick; the joints were abnormal and incomplete; the extremities could not be moved in the ordinary way. Klem (Norsk Mag. f. Lægevidenskaben, p. 1, '99).

CYSTITIS IN THE FEMALE.

The treatment of cystitis in the female consists chiefly in increasing the activity of the bowels and skin, rendering the urine bland and unirritating, and relieving pain and vesical tenesmus. Purgation with salines is indicated, and smaller doses of these are effective if taken with hot water than if cold is used. The skin should be rubbed with a rough crash towel twice daily. Deranged systemic conditions should be sought for and relieved. The diet is of great importance, exclusive restriction to milk curing many cases, but one may give broth, the yelks of eggs, beef-essence, etc.

The chemical reaction of the urine should be carefully watched. If too acid, alkalies, such as salts of lithium, citrate of potash, etc., should be given. Large quantities of water should be imbibed, and this may be rendered more agreeable to the patient if flavored with fruit acid, which becomes an alkaline carbonate in the blood, and acts as a diuretic. Such demulcents as slippery elm or flaxseed may be used with advantage in the acidulated water. When the urine is too alkaline, benzoic and boric acids may be used efficaciously. Germicides are useful in freeing the urine from micro-organisms. One should be very strict with antiseptic precautions in passing the catheter. Where there is great tenderness, the urethra may be rendered less sensitive by the application of a 4-per-cent. solution of cocaine. Before the medicated solutions are passed into the bladder, that organ should be washed out with saline or boric-acid solution. Nitrate-of-silver solution, $^1/_{10}$ to $^1/_2$ per cent., is advocated in obstinate cases, going as high as 20 grains to the ounce. Only a few drops of this solution are used at first, every second day, and then every day until a cure has been obtained. Other astringents, such as tannin, sulphate of zinc, acetate of lead, infusion of hydrastis, potassium, and chlorate or perchloride of iron may be tried in obstinate cases. J. H. Ftheridge (Amer. Gyn. and Obst. Jour., Jan., '99).

DELIRIUM TREMENS.

Treatment.—In the delirium of alcoholism the injection of $^1/_{200}$ to $^1/_{150}$

grain, of atropine, if preceded by a warm bath and cold applications to the head, will generally suffice to quiet a patient in twenty or thirty minutes. In certain cases the good effects are delayed, however, for some hours. If there is much muscular action the drug has an exciting effect for a few minutes, then its calming action begins. Such a patient should receive as his first injection only half the maximum dose, and every ten hours an increased dose until the maximum of $^1/_{150}$ grain is reached. Usually only two or three injections will be necessary. If there is pneumonia, the baths are omitted. In very severe cases of delirium the treatment is begun with the administration of 80 or 90 grains of diuretin in an ounce of water. This produces sleep; then the atropine is injected.

A single injection of atropine each day is of benefit in the exacerbations of dipsomania. The patient should be kept in a somnolent condition by the administration of the following mixture, which is to be given in teaspoonful doses every fifteen to thirty minutes till the desired effect is obtained:—

℞ Chloral-hydrate, 2 $^1/_2$ drachms.
Ext. thebaic, 1 grain.
Aquæ, 6 ounces.—M.

Touvime (La Semaine Méd., Jan. 11, '99).

DIGITOXIN.

The physician has, in digitoxin, if not a perfect substitute for digitalis, a remedy of great value, tolerably free from the untoward effects of the crude drug, convenient of administration, and one that may be used with great advantage when the liquid preparations of digitalis are not well borne. Digitoxin may be administered by the mouth, by the rectum, or hypodermically. The dose by the mouth is from $^1/_{250}$ to $^1/_{125}$ grain, thrice daily; by the rectum, $^1/_{100}$ to $^1/_{80}$ grain. Editorial (University Med. Mag., Mar., '99).

ELECTRIC-LIGHT BATH IN NEPHRITIS.

The electric-light bath is an invaluable remedy in certain cases of dropsy of renal origin. It is of special value in acute dropsy due to the nephritis sometimes encountered as a complication in scarlet fever, small-pox, diphtheria, and in the puerperal or prepuerperal state. Care must be taken to keep the head moistened with cool water during the application, but the head should not be cooled to such a degree as to antagonize the effect of the bath.

In chronic dropsy or chronic nephritis the hot bath is less serviceable in consequence of the organic nature of the affection and the almost certain reappearance of dropsical symptoms after it has been removed. In these cases there is also great constitutional weakness in consequence of the disease, so that the system is very poorly prepared to endure the depressing effects of the hot bath. The electric-light bath also has the effect to leave the patient in a condition of diminished resistance to thermic impressions, thus exposing him to risk from cold, one of the most serious dangers to be feared by the chronic sufferer from Bright's disease. Some eminent authorities on this account wholly forbid the use of hot baths in this class of cases. Still the hot bath is invaluable even in these cases, in one special condition, namely, when the sufferer from chronic nephritis has suddenly become dropsical through an acute onset or exacerbation of the disease, the result of exposure to cold, or through some departure from the required diet or regimen, or other similar cause. Under

these circumstances, the electric-light bath may be employed with advantage, and, if properly managed, without injury. The bath must be short, from ten to twenty minutes,—and it must be administered in such a manner as to give the patient as little fatigue as possible, and should never be carried to the extent of weakening or exhausting the patient. The electric-light bath is far superior to any other form of sweating bath for cases of Bright's disease, for the reason that the skin may be excited to a high degree of activity by a very short application and without exposing the patient to the risk involved in the breathing of highly-heated dry air or a hot atmosphere saturated with moisture, as in the Turkish or the Russian bath.

It must be remembered that a cold application should always be administered after the electric-light bath when employed for spoliative purposes, as well as in most other cases. Great care, however, is needed in the adaptation of the cold application at the conclusion of the bath to the serious morbid conditions. In cases of dropsy resulting from renal disease, cold applications must be administered with the very greatest care. The cold douche and similar percutient applications must be entirely avoided. Cooling off after a hot bath must also be managed with great care. The best method is to wrap the patient in blankets after the hot bath, then cool the skin by applications to limited portions of the surface, taking first one arm, then the other, one limb and then the opposite, and thus proceeding to extend the cooling to various parts of the body until the whole surface has been treated. It is sometimes necessary to go over the whole surface two or three times to complete the cooling in a satisfactory manner. The covering should at the same time be gradually withdrawn. If too strongly sedative effects are obtained by the bath managed in this way, a tonic effect may be secured by supplementing the bath, after the general surface has been cooled and dried, by hot and cold sponging of the spine. The patient must not be allowed to dress or to leave the treatment-room until the surface has thoroughly cooled, and the pulse returned to its normal rate. The treatment is best administered in the evening, so that the patient can retire to his bed. J. H. Kellogg (Modern Medicine, Feb., '99).

ENDOCARDITIS IN THE FŒTUS AND IN EARLY CHILDHOOD.

Disease of the heart of rheumatic form may be manifested during the very earliest years and even in intra-uterine life. Endocarditis involving the tricuspid is more frequent in young children than in later life. The involvement of the tricuspid in the ordinary rheumatic form of endocarditis is not so frequently demonstrated in cases of adults.

In the cases of fœtal endocarditis we have to form our judgment as to the rheumatic nature of the heart disease from the evidence of morbid anatomy alone. The morbid changes in the valves and in the cords and columns, as well as the consecutive alternations in the walls of the heart, are identical with those known to be in direct association with rheumatism. In the period of early childhood the clinical associations with rheumatism are more manifest, though the articular inflammation may be very slight, and in a very considerable number of cases no signs or symptoms of implication of the joints exist. In childhood the whole heart—pericardium, myocardium, and endocardium—is involved in the morbid process. D. B. Lees and F. J. Poynton have drawn attention to

acute dilatation of the heart in the rheumatic fever and to rheumatic dilatation of the heart in the rheumatism and chorea of childhood. The rapid increases of dullness over the heart in rheumatism are not at all due to pericardial inflammation and the effusion of fluid; the whole heart may become swelled and dilated—swelled with the products of inflammatory exudation, dilated because of the enfeeblement of the muscle of its right and left chambers. In some cases this condition of swelled heart disappears without any of the friction-signs of pericarditis being manifested; in fact, the heart and its serous membranes may pass through changes like those occurring in a joint inflamed through rheumatism. These variations in the bulk of the heart may be observed in some cases to be considerable from day to day, and there may be repeated enlargements at intervals of a few days just as there may be repeated swellings in the joints. It must be borne in mind, however, that the enlargements of the heart bear no relation in time or in degree to the articular symptoms. A. Earnest Samson (Lancet, Dec. 10, '98).

FORMALIN IN THE REMOVAL OF MALIGNANT GROWTHS.

Formalin may be successfully used in the treatment and removal of inoperable malignant growths. In a patient with sarcoma of the chest, the tumor four inches in diameter and the size of a man's fist, with, in one place, the sarcomatous tissue giving rise to constant and severe hæmorrhage, which the usual styptic methods failed to stop for more than a few hours, a solution of caoutchouc was applied to protect the surrounding skin, then a small pad of absorbent cotton-wool, soaked with a solution of formalin containing 20 per cent. formic aldehyde, was applied to the raw surface, covered with gutta-percha tissue, and held in place with a bandage. Not only was the hæmorrhage entirely stopped, but in twenty-four hours there was produced a hardening and necrosis of the tissues, extending nearly a quarter of an inch from the surface, which made it seem possible to remove the whole growth by first coagulating the tissues with formalin and then cutting away some of the latter to prevent a recurrence of hæmorrhage. With a scalpel and sharp spoon, as much of the necrosed part was removed as was thought best, and then the cavity was filled with cotton-wool saturated with the formalin solution as before. Daily repeating this, in a very short time it was possible to tunnel right into the centre of the tumor and eventually remove it completely, notwithstanding that it was highly vascular. During the process there was practically not a drop of blood lost. There was occasionally considerable œdema of the lower lids and lips, and, on one occasion, of the cellular tissues of the neck, which caused suspension of the treatment for a few days lest it should cause œdema glottidis. There was, however, never any sign of any such condition. When the application of the formalin was suspended for a few days a line of demarkation formed with exactly the appearances seen in dry senile gangrene of the extremities. Mitchell (Brit. Med. Jour., Feb. 11, '99).

GANGRENE, DIABETIC.

The gangrene of diabetes is not believed to be due to the presence of sugar in the affected tissues, but to the ill results which follow infective processes in the diabetic. Infection of the skin in these patients is a common accident. There is usually itching and scratching, and by this means pyogenic organisms obtain entrance. In the healthy such an

invasion is followed by a strong reaction on the part of the tissues of the body; but in the diabetic person the blood has lost, in large measure, its power of resistance, and instead, therefore, of an acute inflammation with necrosis and casting off of the slough in the skin the necrosis takes place slowly and assumes alarming dimensions. If the gangrenous parts are thoroughly removed with the knife and the principles of asepsis and antisepsis are rigidly adhered to, both at the time of operation and afterward, the wound will heal absolutely without reaction, even though extensive gangrenous portions have been removed. Gussenbauer (Wiener med. Blat., Feb. 2, '99).

GASTRIC ULCER, ALIMENTATION IN.

In ulcer of the stomach the bowel should be emptied by a preliminary laxative and cleansing enema. There should be absolute rest in bed for from two to six weeks. Nothing, not even water, should be taken by the mouth, for from three days to three weeks. Enemas should be given at regular intervals of four hours through a soft-rubber tube inserted rather high into the rectum. The amount should not exceed 4 or 5 ounces. The following is excellent for each enema:—

℞ Somatose, 1 drachm.
Egg, $^1/_2$ drachm.
Peptonized milk, 4 ounces.
Salt, a pinch.—M.

This can be varied in regard to ingredients, quantity, and hours. It is well, however, to give the bowel the long period of rest from 12 midnight to 8 the next morning. A simple enema of one pint of water is to be given every morning at 7. The patient may retain this, in which case it quenches thirst. Or it may be rejected, acting as a cleansing enema. As pain, tenderness, and vomiting cease, one rectal enema may be stopped daily, and a meal substituted,—say, 4 to 6 ounces of peptonized milk with a teaspoonful of somatose. The amount can gradually be increased and other liquid and light diet added. James B. Herrick (Dietetic and Hygienic Gazette, Feb., '99).

HICCOUGH.

Treatment. — An obstinate form of hiccough was observed in a patient aged 60. During a severe attack of facial erysipelas she commenced a hiccough so violent that the sound penetrated to all parts of the house, and, as it persisted in spite of all ordinary remedies, a very gloomy prognosis was given. On the morning of the fourth day the pulse was almost imperceptible, so half a drachm of pure ether in a little water was administered by the mouth, as a cardiac stimulant, and the hiccough diminished almost immediately, two doses in the next two hours cured it completely, and she made an excellent recovery. Stamford G. Felce (Brit. Med. Jour., Mar. 18, '99).

KIDNEY AND PREGNANCY.

There are four indications for prophylaxis in regard to the kidney in pregnancy: 1. The urine of all pregnant women should be regularly examined, especially after the sixth month. Examination of the urine should be chemically for albumin, sugar, and total solids, and microscopically for casts. It is of the most importance to obtain an approximate idea, at least, regarding the amount of urea excreted in twenty-four hours. 2. The formation of toxins is best prevented by careful regulation of

diet and by an abundance of pure air. Pregnant women should not eat too much meat, and that only once a day. Lamb, mutton, fish, and oysters are best for them, with raw or cooked fruit, and with the lighter fresh vegetables in moderation. Graham or whole-wheat bread and all cereals are also helpful. Spirits should be interdicted during pregnancy. 3. The gravid uterus makes quite enough pressure upon the kidney without the added weight of heavy skirts, tight bands, and a laced-in corset. The clothing should be light and suspended from the shoulders. All of the limbs should be protected by flannel undergarments, except in the hottest weather. Multiparæ are often helped by a bandage. 4. To promote excretion by the skin, frequent baths are necessary. A proper evacuation of the bowels is exceedingly important. Cascara sagrada, either as fluid extract or as the aromatic trade preparation, daily doses of compound-licorice powder, sulphur and cream of tartar, saline mineral waters, small doses of colocynth and podophyllum are useful. A glass of milk in the morning purges some patients, though it constipates others. If there be beginning signs of renal incompetence, saline diuretics; spiritus ætheris co., infusion of digitalis, if the arterial tension be not too high, will be found useful in increasing kidney secretion. Large quantities of fluid, such as alkaline mineral waters, milk, bitter vegetable infusions, or even of ordinary water, will prove of service. Mercuric chloride, to increase the flow of urine, to diminish the œdema, and to improve nutrition, should be given for a long time in doses of at least $^1/_{40}$ of a grain three times a day.

In this manner 80 per cent. of the patients who are in danger from renal failure and faulty metabolism may be tided over until they are safely delivered. James L. Kortright (Brooklyn Med. Jour., Apr., '99).

KIDNEY, GRANULAR.

In granular kidney the albumin is usually small in amount and constantly present. The so-called physiological albuminuria is always pathological, even if not always renal. Every patient must therefore be carefully examined. If the albuminuria is found to exist alone, it may possibly be harmless or accidental and of no serious significance. If renal derivatives are found as well as albumin, it must necessarily be due to renal disease, and this is in all probability also the case when no renal derivatives are found in patients in whom the arteries are thickened and the pulse-tension is high. Albuminuric retinitis is one of the later manifestations of interstitial nephritis. In most cases of granular kidney, if the patients live long enough, it does ultimately develop, but a large number of patients with granular kidney die from other causes. Generally speaking, the duration of life after its appearance is short, but, when the patients are in the best condition to take care of themselves, life may exceptionally be prolonged for some time. Samuel West (Lancet, Feb. 25, '99).

LITHÆMIA.

Treatment.—In lithæmia water is to be used abundantly; meats, especially lamb and white meats, may be used with more or less freedom as the conditions indicate. Bread, potatoes, and starchy vegetables very sparingly; but all sweets, and all sharp acids, including the sour kind of grapes, strawberries, tomatoes, and pie-plant should be avoided. Small doses of some alkali which the stomach will tolerate should be continued most

of the time for months, and every effort in the way of out-door exercise should be employed. B. C. Loveland (Medical News, Feb. 11, '99).

METALLIC SILVER AS SUTURE AND DRESSING IN SURGERY.

The antiseptic action of silver wire was demonstrated by placing sutures of silver wire, catgut, silk-worm gut, horsehair and silk on agar-plates of staphylococcus aureus. After being in the thermostat for forty-eight hours all the sutures were covered with a growth except the silver wire, the growth only approaching to within an eighth of an inch of the suture. In guinea-pigs whose abdomens had been sutured with silk-worm gut and silver wire and then had staphylococcus aureus rubbed in, stitch-abscesses formed in the case of silk-worm-gut and not in that of silver-wire sutures. Some tubes were inoculated with micro-organisms, in which silver foil and other dressing had been deposited. The growth was considerably less in the tube with the silver foil than in any of the others. Francis R. Hagner (Phila. Med. Jour., Mar. 18, '99).

MILK, PASTEURIZED.

A method has been obtained to demonstrate if milk has been heated to 176° F. (pasteurized) or not. When 2 drops of a watery solution of paraphenylenamin (1 to 50) and 1 drop of a diluted solution of peroxide of hydrogen containing a trace of sulphuric acid are mixed with a teaspoonful of milk, the crude milk will become dark indigo-blue; when it has been heated to about 156-158° F. the color will be bright grayish blue; but when the milk has been heated to 176° F. or above that temperature it will remain white or get only a slight pinkish color. Storch (Ugeskrift f. Laeger, p. 527, '98).

OPHTHALMIA NEONATORUM.

Prophylaxis. — The prophylaxis of ophthalmia neonatorum can be divided into three stages: before birth, at the time of birth, and after birth. Before birth means should, of course, be employed to render the sterilization of the birth-canal as complete as possible. At the time of birth the careful cleansing of the infant's eyes with a solution of 20 grains of boric acid to the ounce should be practiced, care having been taken to render sterile the surrounding portions of the orbit and also to make use of Credé's method, viz.: the instillation of 1 drop of a solution of silver nitrate, 10 grains to the ounce, between the lids and upon the cornea. After birth some mild cleansing wash, preferably boric acid, in solution of 20 grains to the ounce, should be used three or four times daily; this to be practiced from five to six days after birth. P. C. Jameson (Medical Record, Mar. 4, '99).

OSTITIS TYPHOSA.

Of all the infectious diseases, typhoid fever contributes the largest number of inflammatory lesions in the bones. The bone-lesions following typhoid fever are due to an invasion by Eberth's bacillus, the organism taking on a pyogenic character.

Pure cultures of Eberth's bacillus have been obtained in bone-affections, foci of suppuration in the muscles and skin; in acute endocarditis, sero-fibrinous pleuritis, circumscribed periostitis, cerebro-spinal meningitis, suppurating strumitis, and in abscesses of the spleen and mesenteric glands; all this simply shows how varied may be the action of this organism on the human body. Why the typhoid bacillus more often produces an ostitis as a sequel of the fever may, perhaps, be explained from the fact that Quincke

found the organism present in the bone-marrow of typhoid patients, although there was no lesion present in the bone. The localization of the specific bacillus in the bone-marrow is evidently greatly favored by the slow circulation which takes place. If, therefore, it be supposed that the specific bacillus is present in the bone-marrow of patients afflicted with typhoid, the question arises why ostitis is not more frequently met with as a sequel of this disease. Whether traumatism, exposure to cold, or the great virulence of the bacillus is the cause for the production of ostitis is as yet an open question. The tibia is by all odds the bone most frequently attacked, but the ribs, femur, humerus, ulna, skull, clavicula, sternum, fibula, radius, scapula, pelvis, and vertebræ may also be the seat of typhoid ostitis. In many instances several bones may be attacked. The bone-lesions usually appear eight or ten weeks after recovery from the fever has taken place, but in some cases ostitis has developed during the first, second, or third week of typhoid.

The final result of ostitis following typhoid is usually abscess-formation, or it may be that a necrosis will occur. Young people are usually affected; old persons seem to escape this complication. From statistics it would appear that males are more frequently attacked than females. Every case of typhoid fever, no matter how mild it may be, may give rise to an ostitis. The affection will usually develop in the epiphysis of the long bones. Occasionally the first thing that attracts attention is a feeling of fatigue in the affected limb, but the first real striking symptom is a deep-seated spontaneous pain in the affected bone. This pain is at first diffused, but later becomes localized to the spot where the lesion is developing. After a few hours or more a sharply-defined tumefaction appears, the skin covering it remaining quite normal in color. This tumefaction will be found on palpation to be closely adherent to the underlying bone and is very hard to the touch.

Ostitis typhosa will end in one of the three following ways, namely: (1) by absorption of the tumor; (2) by the tumor's becoming indolent and very tense, when it may exist as such for several months and then finally disappear; (3) by the formation of pus or a necrosis. Abscess-formation or necrosis is, by far, the most frequent. A spontaneous recovery very rarely takes place, and in most instances surgical measures are required. Charles Green Cumston (Boston Med. and Surg. Jour., Mar. 16, '99).

OTITIS MEDIA.

Treatment. — Many cases of otitis media can be aborted by proper treatment if seen sufficiently early,—that is, within a few hours after the onset of the pain. The following prescription gives excellent results:—

℞ Aqueous solution of atropine sulph., 1 grain.
Muriate of cocaine, 2 grains.
Distilled water, 2 drachms.—M.

Eight minims of the solution are warmed and dropped into the ear four or five times a day. A combination of the alkaloids of atropine and cocaine and coca-oil mixed in the same proportions give even more satisfactory results. The patients should be given $^1/_8$ to $^1/_6$ grain of calomel every half to one hour till the bowels move, followed by a saline. Ammonium chloride in 10-grain doses often relieves the tinnitus aurium, and occasionally morphine by mouth may be given for the pain. Bulging of the tympanic membrane is an indication for incising it, after which the ear should be

irrigated either with salt solution of boric acid or 1 to 14,000 to 1 to 8000 bichloride solution. Theobald (Phila. Med. Jour., Mar. 11, '99).

PEMPHIGUS NEONATORUM.

Newly-born children suffering from pemphigus should be given a bath of 90° F., to which an astringent or disinfectant has been added, twice daily, or in case of weakliness once a day or even every other day. The infant should remain for from five to ten minutes in the bath. If a disinfectant is required, potassium permanganate may be added in such a quantity that the bath-water acquires a light-purple color. Before the child is put into the bath the larger pemphigus blebs should be carefully emptied by pricking them with a needle and the pustular contents removed with a mop of absorbent cotton-wool dipped into 2-per-cent. boric-acid solution.

After the bath the skin must be carefully dried (avoiding friction) and dusted over with a dusting-powder composed of 2 parts of airol and 10 parts of amylum. In cases of syphilitic pemphigus internal antisyphilitic treatment must be given at the same time. P. Munz (Der Kinderarzt, Feb., '99).

PERICHONDRITIS OF THE NASAL SEPTUM.

Treatment.—Treatment of chronic perichondritis of the nasal septum is more or less unsatisfactory, and, unless persisted in, is not attended with desirable results. Cleanliness and the elimination of irritation are the chief elements necessary. Alkaline antiseptic sprays may be used, but the most satisfactory method is to gently cleanse the septum with cotton saturated with such solution. Following this, the septum may be covered with ointments containing ichthyol, boric acid, yellow oxide of mercury, or calomel, lanolin being used as a base. It is very important to correct any affection of the nasal chambers, such as a concomitant catarrhal condition, while examination should be made of the upper respiratory tract and any deviations from the normal rectified. Constitutional measures are usually indicated, attention also being directed to the environment, food, and the administration of such drugs as may seem necessary. Lewis S. Somers (Medical Record, Jan. 14, '99).

PICRIC ACID IN ECZEMA.

Picric acid was successfully used in different forms of eczema in Pellizzari's clinic in Florence. The affected part was first freed from scabs, etc., the hair cut as short as possible, and the whole region thoroughly washed with boric-acid solution. When the part had been dried, applications of a saturated watery solution of picric acid were made with pledgets of cotton; then a compress wrung out of the same solution was applied, and over this was placed a layer of cotton-wool, the thickness of which was proportionate to the abundance of the secretion. The whole was kept in place by a bandage. The dressing was left on for one or two days. The picric acid causes great smarting in the parts to which it is applied. This, however, ceases completely in ten or fifteen minutes, giving place to a sense of relief, which is mainly due to cessation of itching. F. Radaeli (La Settimana Medica, Feb. 18, '99).

PLASTIC METHODS IN SURGERY.

In cases where it is desirable to transplant a flap of skin from one leg or thigh to remedy a defect in the opposite one, the limbs should be fixed, crossed one over the other, a position borne by the patient for a considerable period without much difficulty.

Good fixation is all-essential in these

cases, and the apparatus must be so arranged that the patient is able to tolerate it, as also to render the application of dressings easy. In the lower extremities, and, indeed, elsewhere, each limb should be enveloped separately in plaster of Paris, and the parts then bound together by a third gypsum bandage.

Where a flap is transplanted into a cicatrix, the whole of the cicatricial matter should be divided or dissected out, and all tendons and structures bound down by it or adherent set free. Whenever it is possible, the flap should be cut in the direction of the blood-vessels. The direction of the chief vessels should be considered, and the flap fashioned as far as possible so that its long axis may be parallel to them.

In order to fill up a defect on the anterior and inner side of the patella, produced by gangrene of the skin covering the part, for which during eleven months all means to heal the surface were tried without effect, Maas transposed a recent flap from the inner side of the opposite leg. A thin cicatrix covered the larger part of the area concerned, which was 4 inches by 6 inches in extent, and this cicatrix constantly gave way in various places when the patient began to move about, while a central portion of 2 inches square over the patella remained unclosed. Two parallel incisions were made on the inner side of the sound leg, and united by an oblique incision below, so as to form a flap 8 inches by 6 inches. The superficial granulations and the film of cicatrix having been scraped away and the bleeding stopped, the flap was at once turned into the defects and sutured, the limbs were fastened together by plaster of Paris from the foot up to middle of leg, so that the heel of the left foot rested on the outer side of the ankle of the right.

As a permanent dressing, boric ointment was freely applied, and sublimate gauze. The first dressing remained for eleven days, and on its removal the flap seemed healed in its new position. Thirteen days after the transplantation the pedicle was divided. Ten months later there was a complete restoration of the movements of the knee. Sir William MacCormac (Treatment, Mar. 23, '99).

RABIES.

In treating a patient bitten by an animal the history of the animal should be obtained as far as possible. If the locality where the patient was bitten has been the seat of other cases recently, and the wound is in an exposed part of the body, hand or head, it should be cauterized thoroughly within twenty-four hours, an anæsthetic and nitric acid being used. Fuming nitric acid is more efficient than the actual cautery or pure nitrate of silver. If the wounds are severe, Pasteur preventive treatment should be given, if the bite is superficial or through the clothes, and the cauterization is made thoroughly within the twenty-four hours no more need be done, certainly not if there has been no cases of rabies in the neighborhood. The Pasteur preventive treatment can never do harm, and, if the patient desires it, its use should be advised. It is given in the following way: A spinal cord of a rabbit dead from laboratory rabies is hung in a sterile jar with two vents: one in the lower and the other in the upper part, both filled with absorbent cotton. In the bottom of the jar is placed a few sticks of caustic potash to aid the drying process. The jar is kept in a dark room at a temperature of 68° to 72° F. A portion of the cord thus prepared is emulsified by the gradual addition of sterile water and by means of a glass rod. A cord dried four-

teen days is the one used for the first injection, and then each day a fresher cord is employed until one dried only three days is finally used. The dose of the emulsion for the older cords is 3 cubic centimetres for adults, and then finally $1\,^1/_2$ cubic centimetres for the fresher ones. The injections should be given, under aseptic precautions, either into the subcutaneous tissue of the abdominal wall or the buttock, care being taken not to penetrate the muscular tissue. No particular reaction, either local or general, should follow the injections. Before the cord is emulsified at least two tests should be made to prove its freedom from any chance contamination. The usual course of treatment lasts fifteen days, in which time twenty to thirty injections are given. If the subject comes late or if the injury is very severe and near a large nerve the intensive form of treatment may be employed. In this way more injections are given daily, thus rapidly approaching the time to use virulent cords. Children bear nearly as large doses of the cords as adults.

The disposition of animals which have bitten people should be as follows: Never killed, but captured, and placed in a kennel under lock and key for a week. If at the end of that time, they are well, there is naturally no danger for the person bitten. If the animal dies, an autopsy should be made, all the organs examined, and a portion of the brain and spinal cord emulsified and inoculated into guinea-pigs and rabbits. If a disease which could cause death should be found in other organs, it is of importance. The inoculation-tests should also be made to demonstrate beyond a doubt that rabies was not also present in the same case. Follen Cabot (Medical News, Mar. 18, '99).

RHEUMATIC HEART DISEASE IN CHILDREN.

Symptoms.—Pericarditis is in a much greater degree than endocarditis a source of danger to children. They do not usually die in the first, but after two or three attacks, of rheumatic fever, often at an age about the onset of puberty. In such cases the heart is found, post-mortem, so large that it is almost impossible to believe, without knowing the facts, that it is the heart of a child. The first sign of mischief is often irregularity of pulse and cardiac impulse. There is sometimes no enlarged area of dullness on percussion. Adolph Baginsky (Brit. Med. Jour., Oct. 15, '98).

Prognosis.—The prognosis in rheumatic heart disease in young children is not to be deducted from a consideration of the valvular lesions believed to be present, except in the very rare cases of advanced mitral stenosis; but it must be founded mainly on three facts: the amount of cardiac dilatation, the presence or absence of pericarditis, and the evidence of a flesh rheumatic toxæmia, as shown by sore throat, erythema, rheumatic nodules, arthritis, and chorea. D. B. Lees (Brit. Med. Jour., Oct. 15, '98).

SHEET-RUB.

The sheet-rub is recommended in functional nervous diseases. The rub is given at the bed-side. Two sheets are used, and these must be placed in such a manner as to admit of instant handling either over the end of a chair or the foot of the bed. One sheet is dipped in salt water. The patient is taken from the bed and the cold sheet instantly thrown around him. After briskly and vigorously rubbing him through this sheet it is dropped to the floor, and he is quickly rubbed through the dry one. He then

gets into bed and covers himself up well and puts out his feet to be dried and slapped to promote circulation. To be properly done this rub should not occupy over a minute and a half, if three minutes are taken, the rub is not properly given. It is exceedingly hard work, and completely exhausts the nurse or physician who gives it correctly. It is usually given before breakfast.

The author has never failed to obtain reaction, even in patients who had to be held up while taking the rub. H. T. Patrick (Chicago Med. Recorder, Feb., '99).

STOMACH, MOTOR INSUFFICIENCY OF.

Treatment.—There are three indications for treatment of motor insufficiency of the stomach: (1) the restoration of the muscular tone of the stomach-walls; (2) a longer period between meals, so that the stomach is afforded longer and necessary periods of rest after the exercise of its secretory and motor functions; (3) the restoration of the vasomotor disturbance of the abdominal vessels.

Lavage of the stomach is objected to on the ground that it removes necessary nutrient material and secretions and because its continued use causes irritation and an increase rather than a decrease of the symptoms. The beneficial effects in improving the muscular tone of the stomach derived from lavage are due to the intermittent distension and contraction of the stomach. For the purpose of securing the beneficial effects of lavage and avoiding its detrimental effects, a thin rubber bag attached to a double tube is introduced into the stomach, so that the water does not come in direct contact with the mucous membrane of the stomach. This arrangement also permits the use of water at temperatures considerably higher than can safely be employed in direct contact with the mucous membrane, whereby also a marked stimulation of the muscular walls of the stomach and of the vascular area of the abdomen is produced. Water distends the stomach in one direction only, and so air is preferable. The effect of higher temperature is used in connection with the air as well, by first passing it through a bottle of heated water, at a temperature of 130° F. Such heated air is also used directly in the stomach without the rubber bag. This treatment is termed "pneumatic gymnastics of the stomach." By the use of the gyromele the stomach is cleaned more perfectly than by any other means, and muscular contractions are systematically stimulated. The gyromele is also used as the inner electrode in electrization, because with it every part of the stomach can be reached. Finally the diet consists of only two meals a day. To further stimulate the peristalsis and assist in the digestion and to overcome constipation, bran-mush with hot water at bed-time may be prescribed. F. B. Turck (Phila. Med. Jour., Jan. 21, '99).

SYNERGISTIC COMBINATIONS.

The method of combining therapeutically analogous drugs in practically minute doses so as to constitute in the aggregate a moderate therapeutic dose is by far superior in effect to a similar dose of any individual one of its constituents administered alone. Especially is this true with the members of the coal-tar products and with most of the alkaloids. The following combination is used as a type and as an adult dose, giving most gratifying results for antipyretic, analgesic, antiperiodic purposes:—

℞ Antipyrine,
Phenacetin,
Quinine sulphate,
Powdered ginger, of each, ½ drachm.
Caffeine citrate, 15 grains.—M.

Divide into fifteen capsules and take one every two hours. In the case of children a proportionate dose is given in a mixture, the vehicle being equal parts of yerba santa and elixir glycyrrhizæ, a composition which disguises the bitter taste. Scheinkman (N. Y. Med. Jour., Feb. 18, '99).

SYPHILIS, HEREDITARY.

Most observers agree that, when hereditary syphilis shows itself in a child, two periods are usually selected for its appearance: the first from birth until the fifth year, during which the lesions correspond to the secondary eruptions of the acquired disease; and the second about puberty, the lesions being characteristic of the tertiary form. Between these two periods there may be an interval of health, during which no specific manifestations occur. Again, the child may show symptoms of the disease within the first five years of its birth, and, if it survives, may have no further evidences of syphilis. On the other hand, the first appearances of the disease may be noticed about puberty. When it occurs at this time it usually shows itself in the nose, and, unless its true nature is promptly recognized and intelligently treated, it may cause rapid destruction of the nasal cartilages and bones, with great deformity as the result. It is important to note that inherited syphilis at puberty usually manifests itself in the female sex. The diagnosis of late hereditary syphilis is somewhat difficult, and many cases of the disease are treated as lupus or eczema. Lupus begins usually on the face and extends toward the nose, which it afterward invades, and attacks the lateral cartilages, leaving the bony frame-work unaffected. Its progress is always slow. Hereditary syphilis, on the contrary, begins in the nasal cavities, pursues a rapid course, and affects the cartilages and bones in succession, extending later, if unchecked, to the face. In doubtful cases the therapeutic test of antispecific treatment will establish the true character of the disease. The symmetrical nature of the lesion is another important point in the diagnosis. P. S. Donnellan (Univ. Med. Mag., Mar., '99).

SYPHILIS OF THE NERVOUS SYSTEM.

The conclusions formulated in regard to syphilis of the nervous system are as follow: 1. Syphilis of the nervous system is rarely syphilis of nerve-tissue, except secondarily. It is, as a rule, syphilitic arteritis, syphilitic meningitis, or gumma, the first being the most and the last the least frequent. 2. To call syphilis of the nervous system tertiary is inadvisable, as it tends to promote confusion in the mind of the practitioner. As a matter of fact, it may occur before disappearance of the primary sore, and more cases occur within the first year after infection than in any other. Syphilis of the nervous system does not appear after a long period of quiescence (twenty to twenty-five years). 3. In women a negative history of infection or secondary infection is valueless, and in man is worth but little more. A positive history is of great value. It is well to remember that the innocent and apparently innocent may contract syphilis. 4. At present we are not warranted in calling tabes, general paresis, or ordinary arteriosclerosis, syphilis of the nervous system, although the important rôle of

syphilis in the etiology of these affections cannot be doubted. 5. The ill-defined, but current, impression that syphilis of the nervous system is nearly always curable is a mistake. Syphilitic paralysis is generally due to arterial obstruction and such a lesion, produced by syphilis, is no more amenable to treatment than the same lesion due to other causes. 6. There is just one special rule for the treatment of nervous syphilis: give mercury and give iodide, and give enough of each. 7. Enough mercury means sufficient at first to touch the gums, while the mouth is kept immaculate, and the continuance of an amount just short of this. Enough iodide means about 120 grains three times daily. This will be tolerated if always given after meals and diluted in from 8 to 16 ounces of water. Hugh T. Patrick (Phila. Med. Jour., Mar. 18, '99).

TRACHOMA.

Trachoma is due to capsulated diplococcus, 1 $^1/_2$ to 2 microns in length and 5 in breadth, which is not decolorized by the Gram method of staining, and whose septum at times has an affinity for aniline stains, causing the diplococcus to simulate a bacillus. This organism is constantly present in the trachoma-follicle and secretions, before astringent and antiseptic remedies have been employed. A small diplococcus in which a capsule can almost always be recognized and which exhibits a characteristic reaction toward stains, can only be recognized by means of the microscope. The method employed in suspected cases of trachoma is briefly as follows: When enlarged follicles are found, one of these is expressed and its contents employed. If there are no follicles the secretions can be examined, though these are very unsatisfactory. The expressed follicular contents are spread thinly and evenly over four cover-glasses; two of these are fixed ten minutes in absolute alcohol, two are fixed in a flame. One of each kind is now put through the ordinary Gram method of staining. The other two are stained according to the Gram-Weigert method, lithium carmine being employed as the counter-stain. In this way four slides are prepared by slightly different methods, whose results should coincide. Where lithium carmine is employed as a counter-stain the bacteria are shown as a deep violet on a bright background. On account of the minute size and at times the scarcity of the organisms, great care and diligence must be exercised in searching the different fields. Owing to the affinity of the septum between the diplococci for aniline stains, some of them simulate bacilli. E. F. Syndacker (Jour. Med. and Surg., April, '99).

TUBERCULOSIS OF THE BLADDER.

Treatment.—In tubercular cystitis dependence should be placed on antitubercular drugs and urinary antiseptics. The two remedies personally most valued as antitubercular are guaiacol and creasote. Much benefit has often been noted from guaiacol, commencing with 3-drop doses and gradually increasing to 20 drops.

The principal urinary antiseptics which are indicated when the urine contains a large quantity of pus are salol, resorcin, boric acid, salicylic acid, and methylene-blue. Such remedies, however, have decided toxic properties, and should not be administered if the kidneys are diseased nor if the quantity of urine excreted be below normal. When the urine is loaded with pus, benefit may be derived from irrigating the bladder twice daily with either a normal salt solution, a saturated solution of boric acid, or a weak solution of salicylate of soda. For

this purpose an instrument should not be passed into the urethra, but the bladder should be filled by means of hydrostatic pressure. In the operative treatment preference is given to suprapubic cystotomy. If, after the bladder has been opened, an ulcer is discovered, this can be destroyed by means of the curette and the actual cautery. When the suprapubic fistula has once been established the bladder can be irrigated and local treatment carried on through the opening. Horwitz (Jour. Cut. and Genito-Urinary Dis., Dec., '98).

TYPHOID FEVER.

Treatment. — The following plan of treatment in typhoid fever has been found successful.

MEDICINAL.—Copper arsenite, $^1/_{100}$ of a grain; nuclein solution, 1 minim.

These triturates are to be given together, one of each, at intervals of three hours, beginning at six o'clock in the morning and continuing until nine o'clock at night. In urgent cases they should be administered at intervals of two hours for the day; and, where the stomach is rebellious or when the anticipated medicinal effect is not observed, the nuclein is to be given hypodermically in doses of 5 minims (10 drops) once a day, preferably in the morning.

Mercury biniodide, $^1/_{100}$ of a grain, is employed for defective hepatic action, foul condition of the stomach, and coated tongue. One tablet is to be given every hour, or every two hours, of the day, the copper salt being discontinued for the time. In the condition described with constipation it will be expedient to administer small doses of a saturated solution of magnesia sulphate.

One thirty-second of a grain of strychnine arsenite may be administered every two to four hours. Whisky or champagne may be employed as stimulants when demanded, although this is rarely necessary when the strychnine salt is administered. Small doses of gelsemium ($^1/_2$ minim of the fluid extract every half-hour until five doses have been taken) is to be given for the relief of headache or fugitive pains.

DIETETIC. — Nitrogenous food should be employed as far as possible, such as beef-tea made from a good extract of beef and bouillon.

Hot milk, to which has been added lime-water, should be administered, and if not well borne by the stomach it will be necessary to add a small portion of liquid pancreatin or peptogenic powder. The rule should be liquid food as far as practicable, given hot, and at the same time as medicines are administered—at intervals of two to three hours. Cold water is allowed in moderation. John Aulde (New York Med. Jour., Feb. 11, '99).

URETHRITIS, POSTERIOR.

Treatment. — In brief, the principles of the treatment for posterior urethritis are:—

1. Irrigations with the Janet method in a recent case of gonorrhœa will, in many cases, prevent posterior urethritis.

2. Irrigations by the recurrent catheter with permanganate of potassium, followed by injections of protargol, will cure, in a relatively short time, a case of subacute posterior urethritis without complications.

3. When chronic posterior urethritis lasting for a long time has caused infiltration of the submucous tissues, then the application of a sound with ichthyol salve gives the desired results. A. Ravogli (International Jour. Surg., Mar., '99).

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Cyclopædia of the Year's Literature.

BICYCLE-RIDING.

Lucas-Championnière[1] thinks that bicycling is an excellent exercise for patients afflicted with hernia. It permits an improvement in the strength of the muscle-walls of the abdomen and a gain in the general health, due to the advantage of exercise in the open air, without the inconvenience attending muscular exercise in the vertical position. He has all of his patients who are operated upon

[1] Le Progrès Médical, Feb. 4, '99.

for a radical cure of hernia resort early to the bicycle.

John M. Robinson[2] states that in the male the deep urethra, the prostate gland, and the base of the bladder are subject to pressure and bumping in bicycle-riding, but when healthy they are seldom thus harmed. An instance of bicycle-urethritis occurred in a clergyman of 45 years. The prostate gland was enlarged and sensitive; the urine contained pus-cells, mucous shreds, was of high specific gravity, with an abundance of urates and uric-acid crystals. The general health was good, and venereal disease denied. Bicycle-riding was stopped, lithia-water given, and all the symptoms abated. A return of the symptoms occurred on again riding and finally the wheel had to be discarded. Perineal inflammations caused by bicycle-riding have nearly always secondary and underlying causes.

Fauquez[3] maintains that the bicycle is to be recommended, in cases where complete normality of the genital tract exists, for the relief of anæmia, dyspepsia, neurasthenia, sterility, obesity, deferred appearance of the catamenia in young girls, and in menopause troubles. The bicycle is a therapeutic agent in simple uterine congestion, in amenorrhœa due to imperfect development of the uterus and ovaries, or to other causes involving simple debility, including nerve-shock; in nervous and congestive dysmenorrhœa; in simple deviations of the period, such as a supplementary show between the normal catamenia; and in cases of fibroid when all hæmorrhage has ceased; in mechanical and membranous dysmenorrhœa; in displacements and flexions; in mild and painless cases of chronic metritis after labor and abortion; and in the leucorrhœa of anæmia, the bicycle may be used, but it must be absolutely forbidden in amenorrhœa associated with phthisis, cancer, diabetes, organic disease of the heart, and albuminuria and organic renal diseases; in metrorrhagia, or excessive menstruation; in acute metritis, perimetritis, salpingitis, ovaritis, pelvic abscess, and parametritis; in hæmatocele and bleeding fibroids; and in vulvitis and vaginitis not thoroughly healed.

Ballantyne[4] has carefully noted all the alleged advantages and dangers of bicycling, as set forth in a series of forty-five articles, collected from various sources in this country and abroad. He rates the advantages higher even than those of equestrian exercise, mainly on the ground of the physical disadvantages of the side-saddle position. An indirect advantage will result from bicycling, namely: that women will learn the benefits of the short, pliable corset; the short skirt, and the absence of high-heeled shoes and loose drapery. The dangers and disadvantages of bicycling resolve themselves into the general evil results of overexertion and the local ill effects of badly-constructed and unsuitable saddles. Cases of miscarriage occurring in women cyclists, if correctly attributed to cycling, are probably caused by overexertion rather than by the direct effect of this form of exercise upon the pelvic organs. There is no doubt that bicycling should be interdicted during pregnancy; and in such conditions as uterine or ovarian tumors, or inflammatory or other disease of the uterine appendages, bicycling, like all other forms of physical exercise, may be harmful. But there is no evidence to show that in minor affections, such as displacements of the

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[2] Medical News, Oct. 1, '98.

[3] Jour. des Connaissances Méd., Aug. 26, '97.

[4] Edinburgh Med. Jour., June, '98.

uterus, prolapse of the ovaries, endometritis, etc., bicycling in moderation does any harm.

Von Keersmaecker[5] has observed cases in which purulent inflammations resulted from bicycling, in women with irritable urethræ or in those who had had previous inflammation of the canal; therefore this form of exercise should be advised against in all cases of chronic affections of the urinary tract.

Lévi-Sirugue[6] says, with reference to the assertion that the bicycle tends to provoke masturbation in women, that the reproach is no more justified than that it produces hernias, which can only occur in those who are predisposed to them. On the contrary, by the diversion and physical fatigue which it induces, it is a valuable aid against that practice.

An editorial[7] asserts that bicycling for anyone who is sound in wind and limb, when not carried to excess, is beneficial, and the same may be said concerning wheeling for children above a certain age. But the practice of allowing and encouraging infants to ride is a most reprehensible one and calculated to do infinite harm. Dr. Elliott says that he considers that at an early age the bones are soft and the ligaments undeveloped and unfitted to stand the special requirements of riding a bicycle, and the result may be a reduced ligamentous system, and he believes that bicycle-riding tends to disproportionate the legs when compared with the arms.

Regnaud and Bianchi,[8] in examining the organs of three bicycle-riders by means of the phonendoscope, found that during the course of the race the size of the liver, spleen, and stomach diminished, also the quantity of subcutaneous fat. These changes were caused by insufficient ingestion of food, and by considerable loss of energy, increased by the heat, loss of sleep, and emotion. The thoracic organs were not diminished. The continual movement of the limbs and pelvis, joined with the stooping attitude, elevated all the abdominal organs to a distance of from two to four centimetres. This caused an approach of the heart to the neck of from two to five centimetres. The bicycle may thus be of possible use in ptosis of the abdominal organs, in pleurisy, and in exaggerated vertical position of the stomach.

Altschul[9] by studying the effects of the various forms of exertion—viz.: bicycling, turning, and mountain-climbing —has found that a dilatation of the heart is demonstrable in all persons as soon as the respirations rise to 28 or more. The conclusions are that every considerable muscular effort, in which large muscle-groups are brought into play in rapid succession, causes an increase in the heart's action and the respiration, and this leads to a physiological enlargement of the heart, which in a state of quiet subsides after a time. The reason that bicycling is a form of work, more severe than moderate mountain-climbing, is that it calls into action nearly all of the muscles of the body; in addition there is the mental strain. It is important to remember that subjective shortness of breath, which is a danger-signal, is much less marked and appears later in bicycling than in turning or climbing. This absence or late occurrence may lead to serious consequences. Only such persons should be permitted to ride whose heart, vessels, and lungs are sound. He

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[5] Annales du Société de Médecine d'Anvers: Frauenarzt, Feb. 18, '98.

[6] Gaz. Hebdom. de Méd. et de Chir., June 26, '98.

[7] Pediatrics, Apr. 15, '99.

[8] Gaz. des Hôpitaux, Sept. 6, '98.

[9] Münch. med. Woch., Dec. 6, '98.

who after a ride feels well, has a good appetite, is not sleepy, but enjoys sound slumber at night, has not overtaxed himself. In chlorosis and neurasthenia the use of the bicycle should be restricted to mild or convalescing cases. Chronic constipation, particularly in women, is benefited by the exercise; in obesity bicycling surpasses all other physical methods.

Audhui[10] believes that the benefits outweigh the evil results of bicycling.

CYSTITIS.

Diagnosis.—George Rosenfeld[11] gives the following as a means of differential diagnosis of cystitis and pyelitis:—

1. An alkaline reaction is not found with uncomplicated pyelitis.

2. The limit of albumin in the urine even with severest cystitis is 0.1 per cent. (maximum 0.15).

3. If nearly all the pus-corpuscles are crenated, the condition is pyelitis.

4. If the red corpuscles present are chemically or morphologically decomposed, provided the hæmorrhage is only microscopical and there is no vesical tumor, pyelitis exists.

5. Unless if small epithelial cells, not imbricated, favor the diagnosis of cystitis. The characteristic symptom for diagnosis is the relation of the albumin-content, which is from two to two and one-half or even three times greater with pyelitis than with cystitis.

Esbach's albuminometer is valuable in determining the amount of albumin.

Treatment.—In cystitis V. W. Gayle[12] advises complete rest. Position has much to do with the comfort of the patient. The dorsal decubitus, with the knees elevated, and a pillow under the thighs, is very comforting at times. Bland, unstimulating diet, especially milk and buttermilk, is to be given. Condiments, alcoholics, and sexual intercourse are to be strictly interdicted; constipation must be overcome by enemata or salines, such as Carabana or Rubinat water, or sulphate of magnesia in hot water. Rectal suppositories of opium and belladonna at night are often needed for the relief of the pain. Irrigations of the bladder with boric-acid or benzoate-of-sodium solutions are efficacious. The instillation of a solution of nitrate of silver gives good results, 1 grain to the ounce, to be increased if necessary. Hot applications to the perineum and over the bladder are grateful. Benzosal and salol are good antiseptic remedies, but better than any other remedy is the combination of the oil of sandal-wood and the oil of saw-palmetto, called "sanmetto." A teaspoonful every four hours has produced desirable results in every personal case in which it has been used.

T. Gordon Kelly[13] remarks that in cystitis the first and main indication for treatment must be to render the urine antiseptic. Urotropin is a perfectly reliable and satisfactory urinary antiseptic. It is a non-toxic and non-irritating derivative of formic aldehyde. In cases of cystitis and of phosphaturia its action has personally been almost specific. In some cases it is said to cause a slight burning sensation in the bladder if large doses are taken, but no patient to whom it has been personally given has ever complained of this. In prescribing urotropin the reaction of the urine should first be discovered. If it is very acid a little citrate or acetate of potassium or, if it is very alkaline, a little dilute mineral acid should be given in addition to the drug.

[10] Gaz. Hebdom.; Frauenarzt, Feb. 18, '98.
[11] Berliner klin. Woch., July 25, '98.
[12] Medical Brief, May, '99.
[13] Therap., Oct. 15, '98.

R. E. Graham[14] states that pyoktanin can be applied to the most delicate mucous membrane, not only in concentrated solution, but in powdered form, with but slight, if any, irritation. As a germicide and antiseptic pyoktanin stands high in the list. It retards the development of pus even in solutions of 1 to 2000. Pyoktanin, when applied to inflamed mucous membrane, stains it intensely blue; this color remains for a number of days, and the pyoktanin is active as an antiseptic so long as any color remains. In treatment of inflammation of the bladder and urethra injections of pyoktanin solutions into the bladder produced the happiest results in four cases.

Whittaker[15] says that the annoying symptoms of chronic cystitis with enlarged prostate yield to the action of pichi. Cystitis complicating specific urethral infection, involving the prostatic urethra, does not readily respond to treatment, and yet under the influence of this drug the conditions become more tolerable.

According to Hersler,[16] in cystitis in the female the urine should be rendered bland by the use of milk diet, the ingestion of considerable quantities of water, the administration of potassium citrate if too acid, or boric acid and salol if alkaline.

Pelvic congestion should be relieved by hot vaginal douches,—the patient being placed in the knee-chest position,—and the correction of constipation. Boric acid, santalwood-oil, copaiba, or creasote may be given by mouth, or carbolic acid or silver nitrate in suitable strengths may be injected. The general health must be improved by tonics. Rest in bed, especially in all acute cases, is absolutely imperative.

R. N. Mayfield[17] has constructed a catheter in which the danger of clogging or failure to perform its functions is obviated, and its interior may be readily made aseptic, and bits of mucus that usually clog an ordinary catheter may be readily drawn off. This catheter is tubular, with the curve of an ordinary instrument, and opened at the end for an inlet. For the closure of this open end, and for the easy insertion of the catheter, as well as for other purposes, a bulbous or rounded head is used, preferably solid, and attached to one end of a wire, passing through the body or tube and projecting at its rear or outlet end. In treating cystitis with the employment of this catheter, in a typical case, with ropy, viscid, and tenacious mucus, the membrane thickened and possibly ulcerated, and in deep folds, the treatment is begun as follows: 1. A quarter of a grain of cocaine dissolved in a drachm of water is injected into the membranous portion of the urethra. 2. The largest hard-rubber catheter that can be well passed into the bladder is anointed, and the size increased one number each week until the urethra is normal in size. 3. Dilute-hydrogen solutions, — preferably hydrozone,—1 part to 20 of lukewarm water, are first used freely, especially when the large-size catheter is employed. If the small size is used at the beginning, only 2 or 3 ounces at a time should be used until removed by the return-flow. This can be repeated until the return-flow is clear and not "foaming," which indicates that the bladder is aseptic. 4. The bladder is then partly filled with the following solution: Tincture-of-iodine compound, 2 drachms; chlorate of

[14] N. Y. Med. Jour., vol. lxvii, p. 889.

[15] Medical News, Oct. 29, '98.

[16] Mass. Med. Jour.: Amer. Medico-Surg. Bull., Nov. 10, '98.

[17] N. Y. Med. Jour., Sept. 3, '98.

potassium, ½ drachm; chloride of sodium, 2 drachms; warm water, 8 ounces. It should remain a minute or so, and then be removed. This treatment should be used once or twice a day. Where extensive ulceration is suspected, once a week 10 to 20 grains of nitrate of silver to the ounce should be used and neutralized with chloride-of-sodium solutions.

Cumston,[18] in the treatment of tuberculous cystitis in children, advocates the following: Codliver-oil, creasote, and tonics are to be given and iodoform in the form of a pill is highly recommended by Guyon and Reverdin. Locally an iodoform or guaiacol emulsion is to be injected into the bladder and retained until expelled. The ulcerations may be cauterized and curetted, if they be extensive. Lactic acid, being of value in tuberculous laryngitis, was tried in the bladder, and the results obtained in the case warrant the further trial of the drug.

When suprapubic cystotomy is performed to bring about a radical cure, it should be done only in the primary vesical tuberculosis, and then much can be expected from drainage of the bladder. The ulcerations can be directly cauterized with the thermocautery or excised through the opening. When cystotomy is done as a palliative measure, the relief from pain is quite enough to justify its performance.

O. Huebner[19] has had excellent results with urotropin in the cystitis of children, both simple and gonorrhœal. In cases in which there is marked ammoniacal fermentation, its ability to render the urine acid, as well as its special antiseptic action, soon produces a cure of the condition if due to simple causes. Where the urine is acid, its action is less certain, and may be of no service whatever. A continued use of the drug is necessary after healing has set in, often at least three weeks. Ten to 30 grains a day may be given in divided doses to children of ten years.

ECLAMPSIA.

Etiology. — Baron and Castaigne[20] find that certain substances injected directly into the fœtus or the amnion are rapidly absorbed by the maternal organism, provided the fœtus is living, but much more rapidly from the fœtus than from the amnion. From this it would seem that the fœtus secretes certain toxic substances into the blood and amniotic fluid. Secondly, if the fœtus be dead, substances injected into either amnion or fœtus do not seem to pass into the maternal circulation. This would seem to throw considerable light upon the various phenomena of eclampsia, and especially as showing that the death of the fœtus is followed by cessation of the convulsive seizure.

With regard to the urine in eclampsia, there is but one conclusion, viz.: that cultures may or may not be prepared from it. While the urine of healthy pregnant women has been reported as sterile, Bar[21] has been able to cultivate germs from it in certain cases, precisely the same germs that can be cultured from the urine of eclamptics. It is certain that these urines are but feebly toxic when injected subcutaneously in massive doses into animals.

As for the maternal blood and viscera, cultures could be developed in some cases, in others not at all; nor is there any evidence to show that the staphylococcus which has often been cultivated

[18] Boston Med. and Surg. Jour., Dec. 22, '98.
[19] Die Therapie der Gegenwart, 1, p. 63, '99.
[20] Lancet; Charlotte Med. Jour., Apr., '99.
[21] Obstetrics, Jan., '99.

is disease-producing under these circumstances. These conclusions are applicable only to antepartum convulsions or those which occur at the time of labor, for it is well known that in puerperal infection many kinds of germs are pathogenic, and that they may at times produce anomalies in connection with some form of general infection.

The results obtained from examination of the placenta and fœtal viscera are not much more satisfactory.

K. B. Hofmann[22] examined the cerebro-spinal fluid of an eclamptic for the purpose of ascertaining its toxicity. Drechsel's reagent proved that in place of the alkaline carbonate that is always present in the cerebro-spinal fluid there was to be found an ammonium-salt, probably the carbaminate. It is reasonable to conclude, therefore, that in the cerebro-spinal fluid of eclamptics there is present an abnormal quantity of ammonium-salts, mainly the ureate. This must also be present in the blood and other fluids of the patient, and a condition of systemic poisoning from ammonia-ureate must be considered as existing in such a patient.

Prophylaxis. — R. W. Stewart[23] considers that in the pregnant woman prophylactic treatment is of particular importance, because in all cases except those in which chronic nephritis exists free elimination prevents the eclamptic attacks. For this reason it is of importance to keep the emunctories in order; but it is of especial importance to regulate the amount of meats, because of the presence therein of the xanthin bodies, which are especially toxic in character. The quantity of urea should be estimated antepartum, and active measures taken to increase elimination when the percentage falls below normal, — say, 12 grains to the ounce.

Edward P. Davis[24] says that toxins of unknown composition cause eclampsia. These bodies are not found in the urine of eclamptic patients during eclampsia, nor are they found in great quantities in any urine. If they are present in the urine the patient will not have eclampsia. The percentage of urea, however, in connection with the specific gravity and amount, is of value as a clinical index of the amount of waste successfully excreted. Eclampsia can be prevented by regulating the diet of the pregnant woman and stimulating her excretion. An eclamptic patient can be made to excrete by the use of the hot pack and saline injections into the skin and bowel. Such treatment, if faithfully carried out, may save the patient from an attack; but, if her tissues have been seriously damaged by the poisons, she may recover from convulsions only to die from pulmonary gangrene or failure of the nervous centres. In these cases veratrum viride seems of decided service.

Eichelberger[25] comes to the following conclusions in regard to puerperal eclampsia:—

1. That eclampsia depends upon toxæmia due to overproduction of toxins and under-elimination of the same. That it is only found in the pregnant and lying-in state.

2. That, though there are many remedies and operations indicated, there is no specific for eclampsia.

3. That in a plethoric patient veratrum viride in large doses followed by morphine is to be first given; in anæmic patients morphine is to be given first,

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[22] Centralb. f. innere Med., July 16, '98.

[23] Cincinnati Lancet-Clinic, Mar. 25, '99.

[24] American Jour. of Obstetrics, etc., Apr., '99.

[25] Women's Med. Jour., vol. ix, No. 2.

followed by bromide and chloral; all to be assisted by diaphoretics, purgatives, and diuretics.

4. To endeavor to bring about delivery as early as the safety of the mother and child will allow; that eclampsia is a condition when further tolerance of the fœtus is a question of gravity for the mother and child.

5. That veratrum viride will, in the greater number of cases, make bloodletting unnecessary and accomplish the results required.

6. That any one line of treatment alone is not to be relied upon, each case perhaps indicating but one remedy, and again refusing to respond to the entire list.

Treatment.—During the attack itself B. C. Hirst[26] administers chloroform. As soon as the attack passes, 15 drops of the fluid extract of veratrum viride is given hypodermically and a drachm of chloral in solution by enema. Two drops of croton-oil diluted with a little sweet oil are placed upon the tongue. Diaphoresis is induced by hot packs and extra bed-clothing. A pint or more of decinormal salt solution should be injected by gravity under the breast, or several quarts of the solution by enema. If convulsions recur, the veratrum may be repeated in 5-drop doses if the pulse is quick and strong. If the face is congested and the pulse full, venesection enough to reduce the pulse should be employed. The chloral may be repeated during the attack two or three times. Stimulants are to be used if the pulse is weak and rapid. If the convulsions cease and the patient is in a stupor, but can be aroused enough to swallow, dessertspoonfuls of concentrated solution of Epsom salts should be given every 15 or 30 minutes until free catharsis takes place. These condensed directions should be carried in the pocket-case of every obstetrician.

In puerperal eclampsia T. G. Stevens[27] gives chloroform or keeps the patient under morphine, the bromide and chloral being given per rectum. He protects the patient from injury and induces labor. If the pulse is hard and the patient is plethoric, venesection is resorted to. A hot wet pack or bath is given. Dry cups are used on the loins and then linseedmeal poultices are applied. Two minims of croton-oil on a bread-crumb are placed on the tongue. In a large percentage of cases a good result is obtained.

Seibert[28] says that in sthenic cases one should always perform venesection. Free bowel movements should be secured by croton-oil. It may be given by shaking well 16 drops of croton-oil in 1 ounce of syrup of acacia, and administering the same in $^1/_2$-teaspoonful doses by the mouth, touching the fauces with the handle of a spoon, when the patient will invariably swallow the drug. In one hour 2 to 4 drops can be swallowed. Chloral is of some importance, but the bromides are slow in effect in these cases. Chloroform has given good results, even better than bleeding in some instances. Free diuresis may be secured with pilocarpine, and digitalis and quinine may be given for the effacement of the albuminuria, for some time after the eclamptic attack. He has never produced a premature labor. Morphine should only be used in nervous sensitive women, but should be avoided in uræmic cases.

According to Eli Coover,[29] the main object is to remove pressure, allay irri-

[26] Medical Record, Mar. 4, '99.
[27] Lancet, May 14, '98.
[28] Penna. Med. Jour., Apr., '99.
[29] *Ibid.*

tation, prevent congestion, and support the system. If the patient is a full, plethoric person, with a florid complexion and a full, bounding pulse, free bleeding should be resorted to. If the convulsions do not yield to this treatment, or if the case is one not suitable for blood-letting, from 40 to 60 grains of chloral, with the same quantity of bromide of potassium or sodium may be given per rectum, and repeated if necessary every hour. But if the patients are exceedingly nervous and there is no evidence of albuminuric poisoning, morphine should be given hypodermically. In all cases a dose of calomel, followed in a few hours with a brisk cathartic to move the bowels freely, is indicated. Inhalations of chloroform, ether, and nitrite of amyl often quiet the nervous irritation in the nervous cases. Basham's mixture as a remedy during the interval between the attacks is a valuable means of sustaining the blood and relieving the system of the poisonous condition of uræmia in these cases. When the pulse is very frequent, the temperature very high, Norwood's tincture of veratrum viride in 6- to 12-drop doses, or the tincture of digitalis in 10- to 20-drop doses, every 2 or 3 hours for 24 hours, reduces the force and frequency of the pulse, lowers the temperature, relieves the hyperæmia of the brain, quiets the nervous irritation, and greatly lessens the danger of convulsions.

According to an editorial,[30] in many cases venesection is the best remedy, as much as 10 to 16 ounces being removed. If insomnia and nervous irritation persist a full dose of chloral may be given by rectal injection, as much as 1 drachm in 3 ounces of milk, and, if quiet is not obtained by this injection, it may be repeated three times until as much as 2 to 3 drachms of chloral has been given in 24 hours. In other cases purgative treatment is resorted to or diuretics are employed. The best diuretic under these circumstances is to inject beneath the skin artificial salt solution in the dose of about 1 pint per day. This is particularly useful with the bleeding; or large and complete irrigation of the large intestine may be employed, 2 to 3 quarts of boiled water as hot as can be readily borne being passed into the bowel and kept circulating for a period of thirty to forty minutes, and being repeated two or three times in a period of 24 hours.

Robert Jardine[31] states that injections of large quantities of saline solution into the cellular tissues of various parts of the body in collapse from hæmorrhage and shock, and in cases of eclampsia, have been followed by excellent results. In eclampsia the aim is to flush the kidneys, and thus rid the system of the poison, whatever it may be, as quickly as possible. Other means of treatment to check the fits should also be used. The apparatus for giving the injections is a medium-sized trocar and cannula, six feet of small tubing, a glass filler, and a small piece of adhesive plaster. An ordinary trocar and cannula will do, but one from an aspirator is much better. This apparatus can be thoroughly sterilized by boiling.

The saline solution for hæmorrhagic cases is made by adding a teaspoonful of common salt to a pint of boiled water. For eclampsia the same amount of equal parts of bicarbonate of potash and common salt is used. The temperature should be 100°. In all the cases in which it has been personally used, it has been injected into the axillæ or under the

[30] Jour. de Méd. de Paris, Sept. 25, '98.
[31] Glasgow Med. Jour., Mar., '99.

breasts, but it can be done into any part of the body where the tissues are lax. Aseptic precautions should be taken. A large swelling forms. If it is in the axilla the patient will complain of pain and numbness in the arm from pressure on the nerves; but this soon passes off. A pint will be absorbed in from ten to fifteen minutes. The saline solution should only be used in conjunction with some drug to control the fits, such as chloroform, chloral and bromide, morphia, or tr. veratrum viride. Morphia in large doses is the best drug to control convulsions.

Edgar[32] says that inasmuch as eclampsia is undoubtedly a toxæmia, one should look for good results from the intracellular transfusion of saline solution. Bacon's apparatus is of value in giving this solution. It consists of a glass funnel and long rubber tube, which is connected by means of a Y-shaped glass tube and two short rubber tubes, with two aspirator-needles. The solution can be injected into the two axillæ at the same time, and thus the main objection against the intracellular contrasted with the intravenous method may be in great part obviated.

Poucet and Vinay[33] report the case of a woman in the sixth month of pregnancy who was attacked with eclampsia. Her condition was extremely serious, with complete coma, suppression of urine, high temperature, etc. Abortion was induced, the child being dead when born; 5 1/4 pints of normal saline solution were then injected hypodermically and recovery was rapid and complete.

Fowler[34] notes four cases of puerperal eclampsia and remarks on the value of instrumental delivery and induction of premature labor in certain cases and the value of chloroform in controlling the fits.

ORTHOFORM.

Poisoning.—W. Asam[35] noted a peculiar necrotic process appearing in the course of three to fourteen days after the application of orthoform to tumors, ulcerations, wounds, etc., and retrogressing when the orthoform was stopped. The first inflammatory stage of the process produced metastases in six cases, by reflex action or by the circulation, terminating in the necrotic stage. In the nine cases reported orthoform at first produced its usual favorable effect. In numerous other cases in which it was used both internally and externally there were no unpleasant results from its use.

Therapeutics. — Eugene S. Yonge[36] says that this anæsthetic presents a triple claim to recognition, in that it is sparingly soluble, is non-toxic, and is powerfully antiseptic. On the other hand, it is a disadvantage that it will not act on unbroken skin, or, with certain reservations, on intact mucous membrane, for its strong anæsthetic properties are only manifested where nerve-endings are exposed.

In from five to ten minutes after its application anæsthesia of the denuded surface to both touch and pain begins, and it reaches its consummation within a short period of time. The effect lasts from a few hours to five or six days, and there is, in the majority of cases, perfect or nearly perfect analgesia. Suppuration is usually decidedly diminished and healing accelerated.

Neither free orthoform (basis powder) nor the hydrochloride anæsthetizes sufficiently to allow of surgical action. When it is applied to the tongue, to the inner

[32] Glasgow Med. Jour., Apr., '99.
[33] Sem. Méd., June 1, '98.
[34] Lancet, Apr. 30, '98.
[35] Münch. med. Woch., Feb. 21, '99.
[36] Brit. Med. Jour., Feb. 5, '98.

surface of the cheek, or to the pharynx, a numb sensation supervenes in the course of about five minutes, but there is little real anæsthesia. Orthoform fails to produce any results on an ulcer unless the dual precaution is taken to apply the drug directly to the ulcerated surface and to insure its retention there. The antiseptic action of orthoform appears to be demonstrated by the rapid diminution of purulent exudation in several of the cases encountered, and the speedy healing of the ulcer. In a case of acute gonorrhœa injections of orthoform solutions were followed by the disappearance of gonococci in four days and the complete cessation of blennorrhagia.

Kassel[37] uses an emulsion of orthoform, 25 parts, and olive-oil, 100 parts, for laryngeal application. The burning sensation lasts only about a quarter of an hour, and is then succeeded by anæsthesia, which commonly lasts from 24 hours to 3 $^1/_2$ days. The patient is able to eat all kinds of food, the appetite is greatly increased, and it seldom causes dyspepsia. The emulsion has been employed chiefly in cases of tuberculosis. A distinct diminution in the amount of secretion in cases of ulceration is noted, but otherwise it does not appear to have any local therapeutic value. Patients do not dread the lactic-acid treatment if orthoform emulsion is used regularly.

W. Freudenthal[38] states that orthoform possesses two properties which render it of special value: first, its analgesic action, and, second, its freedom from toxic effects. Patients with readily-accessible tuberculous ulceration of the larynx are especially adapted to orthoform. By means of the application one is able to relieve pain, and cause a disappearance of the difficulty in swallowing, which relief lasts from a few hours to two days. A diminution of the purulent exudation proceeds at the same time with the healing of the ulceration. Orthoform may be employed in various combinations, at first as a powder without any addition; but the following emulsion with the yelk of an egg is particularly recommended:—

℞ Menthol, 2 $^1/_2$ drachms.
Ol. amygdal. dulc., 7 $^1/_2$ drachms.
Vitelli ovi (about two yelks), 7 $^1/_2$ drachms.
Orthoform, 3 drachms.
Aq. dest., q. s. ad 3 ounces.
M. Ft. emulsio.

The best results have been obtained with it, an ordinary laryngeal syringe being employed. In about five minutes the patient experience a feeling of euphoria. The yelk of egg does not decompose, but remains permanent for a number of weeks.

John North[39] has used orthoform in a large number of cases of rhino-laryngology, and has never failed to get complete local anæsthesia when applied to exposed sensitive terminal nerve-endings. In all forms and varieties of ulcerations in the nose, mouth, pharynx, or larynx it gives absolute freedom from pain, the effect lasting several hours to several days. It is so thoroughly antiseptic that ulcerations heal much more rapidly when orthoform is used than when it is not used. In troubles of the fauces where there is no ulceration, but where the epithelial layer of mucous membrane has been denuded, the application of orthoform relieves the pain and reduces the inflammation. After removal of the faucial tonsils, if orthoform is applied to the cut surfaces the

[37] Ther. Monat., No. 10, '98.
[38] Phila. Med. Jour., Mar. 25, '99.
[39] Amer. Med. Compend., Nov., '98.

patients can eat solid food without pain, and the parts heal quickly. There is no pain after removal of an elongated uvula if orthoform is applied.

In a case in which a necrosed tooth was removed the soft parts were badly lacerated. The cavity was packed with orthoform and in a short time all pain was relieved and the patient could eat with no inconvenience. The relief of the pain lasted eight hours, when the cavity was again packed with orthoform. Twenty-four hours after the operation the case was examined and no pain, soreness, or inflammation was found; the lacerated parts were pale and shrunken, and did not become inflamed in the least.

Jessen[40] considers orthoform as the sovereign agent for the pains occurring after the extraction of teeth with peridentitis. It may be applied on a moist piece of cotton, when it quiets at once the severest pain.

Orthoform is regarded by Teisseire[41] as an excellent local anæsthetic and to some extent an antiseptic. It may be applied to fissures of the nipple by insufflation or spread in a thin layer on a compress. It is to be washed off with boric-acid solution before each nursing. Excellent results have been obtained by its employment.

R. Blondel[42] has used orthoform in eight cases of uterine dilatation with considerable success. Fifty cases of endometritis were also treated with complete success and entire painlessness, and without interfering with the ordinary employment of the patients. The cotton wicks which were used as tampons were impregnated with glycerin to which a small amount of powdered orthoform had been added, and the local analgesic effect lasted for twenty-four hours, until a renewal of the dressing was made, a cure always ensuing in from three to five weeks. Equally-good results were also obtained after curetting necessary in fungous metritis. It was possible to curette without general anæsthesia, by applying a dressing of orthoform an hour before the operation.

Bayard Holmes[43] says that every operation about the rectum, about the urethra, and sexual organs is followed by most intolerable pain, smarting, burning, or itching. All of these cases are relieved by the use of orthoform as a powder in the first dressing, its action lasting about twelve to twenty-four hours. Orthoform after operations for the removal of hæmorrhoids has been used with the most satisfactory results.

In burns of the hand, which are so very painful and distressing, most excellent results are obtained. If the blebs are large, they may be carefully dissected away with the scissors, and then dusted with orthoform powder. This is covered with plain gauze and surrounded with a liberal dressing of absorbent cotton.

This remedy is used in the nose with good results, and, when combined with Schleich's solution, relieves the pain which frequently follows the disappearance of the first anæsthesia. The remedy does not seem to be poisonous even when used over a large raw surface for a long time.

W. Cheatham[44] summarizes the observations made at the Munich Surgical Clinic on wounds of various kinds, on burns of second and third degrees, on ulcers (luetic, varicose, carcinomatous,

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[40] Deut. Zalmaerztl. Woch., No. 10, '98.
[41] Thèse de Paris, '98.
[42] Rev. de Thér. Med.-Chir., vol. lxv, p. 325.
[43] Woman's Med. Jour., Jan., '99.
[44] Amer. Pract. and News, Aug. 15, '98.

etc.), on dental caries, etc., as follows: 1. Loss of sensation commences, on the average, in from three to five minutes after application, whether as a powder or as 10- or 20-per-cent. ointment. 2. The anæsthetic action continues, on the average, for about thirty hours, in many cases even for three or four days. Only in one case did the action last scarcely two hours, the powder being carried away by copious secretion. 3. Diminution of secretion is always observed: a feature which is very valuable, for instance, in transplantations, where the grafting of the transplanted skin is promoted. The reduction of very copious and troublesome salivation in a case of inoperable cancer of the cheek was also noted. 4. Non-poisonousness is demonstrated by the fact that in a case of carcinoma 2 ounces weekly were applied without any bad effect. 5. As regards antiseptic qualities, no special experiments were made on patients, but no bad influence on wounds was experienced. Purulent discharge was never occasioned, but when present ceased shortly after application of the powder.

Observations made in Leyden's clinic show that, besides its anæsthetic effect on raw surfaces, orthoform is absorbed by the intestinal canal, and is eliminated somewhat changed in chemical composition by the kidneys. It may be given in doses of from 15 to 20 grains per day, and it is said to relieve pain in cystitis and gonorrhœa. The urine does not readily undergo putrefaction during its administration.[45]

Danlos[46] finds that practically painless injections of calomel may be made by means of the simultaneous use of orthoform. The mixture was employed in a case of syphilitic glossitis, and, not only was analgesia obtained at the time of the injections, but on the fourth day, when there is usually a painful reaction, only slight local discomfort was evidenced.

Loeb[47] finds that, by mixing 5 to 10 per cent. of orthoform with a 10-per-cent. solution of salicylate of mercury, the pain accompanying intramuscular injections for syphilis is prevented or relieved. There is some local pain with nausea eight to ten hours afterward, but these troubles are never intense and last only a short time. No unpleasant effects were ever observed.

Einhorn and Heinz,[48] finding that orthoform and new orthoform cannot be used hypodermically on account of the difficulty with which they dissolve, and as their salts are too irritant for that purpose, have produced, by substitution, a substance sold under the name of nirvanin, which is not alone more permanent than cocaine, but also ten times less toxic; it is also antiseptic. In 2-per-cent. solutions, injected hypodermically, it produces a prolonged regional anæsthesia.

Teuchenburger[49] notes ninety-four operations performed under the effect of nirvanin. No unpleasant symptoms appeared in any of the cases. The best method of employing the drug is to make a 2-per-cent. solution with sterilized saline fluid.

PERICARDITIS.

Diagnosis.—According to T. E. Satterthwaite,[50] it is not always easy to distinguish between dilatation of the heart and pericardial effusion, especially in stout people and in women whose breasts are large. In dilatation, from whatever

[45] Deut. med. Woch., June 30, '98.
[46] Med. News, Mar. 4, '99.
[47] Monats. f. Prak. Derm., B. 27, No. 1.
[48] Münch. med. Woch., Dec. 6, '98.
[49] *Ibid.*, No. 2, '99.
[50] Med. Times, Apr., '99.

cause, there is a waving impulse of the heart and the apex is better felt, though in many cases of fatty heart it may not be appreciable. A point of great importance, however, is the configuration of the dull area. In enlargement the heart is shaped like a pear, with the small end directed downward and outward, while in effusion, when there are eight ounces or more, the form of the sac as marked out on the chest-wall will be pear-shaped with the base directed downward and outward, and the small end directed toward the manubrium. Change of position in the patient makes very little difference in the area of dullness in enlarged heart, while in pericardial effusion a considerable difference is generally apparent. The greatest difficulty is sometimes found in distinguishing a pericardial from a pleuritic effusion. A large pericardial effusion will compress the lung much as a pleural effusion. In both the lungs will be compressed if there is much fluid, but in pericardial effusion compression will be mainly exerted on the lower lobe of the left lung, forcing it toward the left, and if this lobe is much compressed there should be increased vocal resonance and bronchial breathing, as heard from behind. On the other hand, if pressure is brought by the fluid on the posterior part of the left lower lobe, and its superior part is attached to the front of the pericardial sac, it may take on compensatory emphysema, and then the percussion-note will be tympanitic.

Both in pericardial and in pleural effusions the respiratory sounds are feeble whenever the action of respiration is interfered with. In rheumatism the effusion is apt to be sero-fibrinous, in tuberculosis it may be fibrinous or fibro-purulent; in infective diseases, such as malignant endocarditis, it will probably be more or less hæmorrhagic. Unless one resorts to aspiration, there is no way of distinguishing between pericarditis with a serious effusion and hydropericardium due to dropsy of the sac.

G. A. Sutherland[51] says that Baginsky has recently shown that in 9 per cent. (six cases out of sixty-six) of a series of cases of pericarditis in children the disease was tuberculous. It is, however, in only a small proportion of these cases of tuberculous pericarditis that the pericarditis gives rise to any important symptoms and in most instances the tuberculous disease is only discovered at the necropsy. Tuberculosis of the pericardium may present itself under three different conditions: (1) as a part of acute general tuberculosis, miliary tubercles may be present in the pericardium [these do not, as a rule, produce symptoms during life]; (2) as the result of a local extension from a tuberculous focus in the adjoining structures, the lungs, mediastinal glands, etc.; and (3) as a form of pericarditis which is probably secondary to a tuberculous deposit in some part of the body, but where the pericarditis is the prominent feature of the illness and the tuberculous disease elsewhere remains latent, often unsuspected. By some a very large amount of exudation is regarded as a characteristic sign of tuberculous pericarditis.

Plicque[52] points out that rheumatic pericarditis is, in the adult, more rare than endocarditis, but in children that rheumatic pericarditis is the more common lesion of the two.

A. Baginsky[53] observed, among 4500 cases of disease in children, 66 instances of pericarditis: 20 during the first year

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[51] Lancet, Apr. 8, '99.

[52] La Presse Méd., June 4, '98.

[53] Berliner klin. Woch., Nov. 28, '98.

of life. In 24 cases the cause of the disease was rheumatic polyarthritis, with or without chorea. Next in frequency were tuberculosis and pleuro-pneumonia. The forms of pericarditis in childhood correspond anatomically to those seen in the adult, though there is a marked tendency in early life to the formation of purulent exudates and to circumscribed or extensive adhesion of the pericardial layers. Serous pericarditis was seen 13 times. In young children the pericardial sac has the shape of a cone with convex walls; as the child grows older, the sac assumes more and more the form of an avoid pointed toward the apex of the heart. In pericarditis of young children an area of dullness was generally found in the posterior wall of the thorax. This dullness might lead to the diagnosis of pleural effusion, but the fact that the respiratory sounds become distinct during deep exploratory puncture serves to decide. Friction-sounds are usually audible, but are finer than in the pericarditis of adults.

F. A. Packard[54] states that one of the most difficult lesions to detect positively during life, and one of the most frequent post-mortem surprises, is total obliteration of the pericardial cavity from a former pericarditis. Pericardial effusion can, as a rule, be readily determined by the characteristic pear-shaped area of precardial dullness and by the apparent elevation of the apex-beat, as also by careful percussion of the angle formed by the lines of dullness of the right border of the heart and the upper surface of the liver, this angle becoming decidedly obtuse.

From the study of a case of obliterative pericarditis causing hepatic enlargement and ascites R. C. Cabot[55] offers the following conclusions: 1. Some cases of hepatic enlargement with ascites, and other evidence of portal stasis, appear to be due to chronic obliterative pericarditis. 2. Appreciation of this possibility may lead to the correct diagnosis through careful and frequent examinations of the heart and close scouting of the previous history. 3. The disease appears to be relatively frequent in persons under 30 years of age, and usually runs a course of from 6 to 12 years; that is, a longer course than most cases of primary alcoholic cirrhosis. The fact is of importance in prognosis. 4. Treatment is, in any case, simply palliative.

Galvagni,[56] under the title "pericarditis callosa," notes three cases of chronic fibrous pericarditis. The difficulty in diagnosis is made greater by the fact that the disease generally begins insidiously in childhood. After a period of more or less good health the symptoms of central obstruction to the circulation set in. When fully developed, the disease shows itself by a small, but regular, pulse, cyanosis of the face without marked œdema of the lower extremities, full and tortuous jugular veins, without pulsation. In spite of the stasis in the whole venous system, the right heart is often not dilated. There is almost complete fixedness of the area of dullness and of the apex-beat in the lateral position. There is also weakness of the cardiac sounds, and not rarely a reduplication of the second sound. Systolic retraction is not often present. A kind of hepatic cirrhosis from venous stasis is frequently seen and may be the cause of ascites. Usually the large vessels, especially the arteries, are narrowed in calibre and are slender.

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[54] Maryland Med. Jour., vol. xxxviii, No. 25, p. 435.

[55] Boston Med. and Surg. Jour., May 19, '98.

[56] Clin. Modern., An. 4; Brit. Med. Jour., Oct. 22, '98.

Etiology. — Sears[57] notes a case of acute pericarditis accompanying croupous pneumonia in which the fluid drawn from the pericardium was bloody and found to contain a pure growth of pneumococci. After the withdrawal of ten ounces of fluid the patient slowly recovered. Eleven cases of recovery from pericarditis, in which the exudate was more or less bloody, have been found in the literature. Of these, 6 occurred during the course of scurvy, 5 being reported previous to 1854; 3 were rheumatic, and 1 was with exophthalmic goitre. One was apparently idiopathic, occurring in a very alcoholic subject. It is very probable that further examinations will give positive proof that other bacteria than the tubercle bacillus are capable of producing hæmorrhagic pericarditis, as well as hæmorrhagic pleurisy.

T. E. Satterthwaite[58] says that, from an etiological point of view, it is convenient to divide pericarditis into the primary, or so-called idiopathic, form and the secondary.

The primary, or idiopathic, form is rare, but cold, certainly, is the cause of it, and so are injuries of various sorts.

Secondary pericarditis occurs in from 20 per cent. to 70 per cent. of acute rheumatic affections. Next in line as a causal factor is chronic nephritis. Following in order of frequency is sepsis, usually from puerperal fevers or bone diseases; then pneumonia, scarlet fever, measles, typhoid, small-pox, and malignant endocarditis. Or it may be due to such dyscrasias as scurvy, diabetes, or alcoholism. It is also not uncommon to have the disease a continuation of a more remote affection. Thus, pleurisy may extend into the pericardium, producing pericarditis. Pericarditis is found at all ages. It even occurs in fœtal life. Males are more subject to it than females.

Treatment. — According to A. Baginsky,[59] the treatment of pericarditis in children should be directed against the causal and accompanying disease. The excited heart's action is controlled by rest in bed, by strophanthus or digitalis; and by the application of ice locally. Ichthyol ointment (from 20 to 30 per cent.) is useful, and in some cases the old calomel treatment may be indicated; in that case incision and mercurial ointment may be of value. Surgical treatment is preferred to mere puncture.

T. E. Satterthwaite[60] regards absolute rest in bed as the first indication for treatment in pericarditis. In extreme cases wet cups to the præcordium may be advisable for plethoric people, but they should seldom be resorted to. Dry cups and rubefacients are, however, useful. The ice- or cold-water bag are recommended by Continental physicians, but at best they should only be used for temporary relief. The diet should be carefully regulated so as to prevent gaseous distension of the stomach. Digitalis should be given in doses of 1 to 2 grains of the substance two or three times a day or by tincture or infusion. Acetate of potash has achieved an excellent reputation in cardiac effusions. From 10 to 30 grains may be given every four hours. An excellent remedy is Basham's mixture. If the disease has taken on a subacute form, iodide of potassium, in 7- to 10-grain doses, three times a day, will tend to absorb the fluid. Ordinary alcoholics and, perhaps, diffusible stimulants, or heart-tonics, like

[57] Boston Med. and Surg. Jour.; Univ. Med. Mag., Jan., '99.

[58] Med. Times, Apr., '99.

[59] Berl. klin. Woch., Nov. 28, '98.

[60] Med. Times, Apr., '99.

strychnine in doses of from $^1/_{60}$ to $^1/_{25}$ grain, may be found desirable. In great præcordial pain and distress opium may be necessary; or trional in doses of from 15 to 30 grains. Paracentesis may be applicable in some cases. In sixty cases collected by Roberts there were twenty-one recoveries after the operation. Some recommend that the aspirator-needle be introduced in the fourth or fifth interspace, from 2 to $2\,^1/_2$ inches from the left edge of the sternum (MacDonnell). Roberts insists that the best spot is the fifth left interspace, 2 to $2\,^1/_4$ inches from the median line of the sternum. The operation should be done slowly and carefully. It is not demanded except in rare cases.

In rheumatic pericarditis the treatment is first prophylactic. Plicque[61] thinks that, while the salicylates do much toward relieving the articular pain, they are of little value in preventing cardiac complications, except in that they shorten the duration of the disease. Small doses of sulphate of quinine may also be valuable as a supportant and prophylactic treatment. After the pericarditis has once been established the chief part of the treatment should consist in local counter-irritation. Leeches may be applied over the præcordium or wet cups may be used. In some instances the ice-bag, which has been highly recommended by some clinicians, is not well borne, and in its place local applications of mercury-and-belladonna ointment, placed upon flannel, may be made. After the acute stage of the pericarditis is past a blister or a cautery may be useful. For cardiac feebleness small doses of digitalis are advisable, but, should these doses produce great slowness of the pulse, then tonic treatment consisting in the administration of alcoholic beverages—such as champagne, coffee, and acetate of ammonium—may aid the digitalis. Subcutaneous injections of ether, caffeine, camphorated oil, and inhalations of oxygen are also advisable. The necessity for paracentesis in pericarditis rarely arises, but, if it does, the fifth interspace to the left of the sternum is the best point for inserting the needle.

In pericarditis Korte[62] thinks that operative interference is only justified in cases of effusion in which the life of the patient is threatened. This is generally the case where the fluid becomes purulent. He divides operations for the relief of the effusion into the pericardium into three kinds, namely: puncture, incision through the intercostal space, and resection of a rib. Puncture is a dangerous procedure, as there is a great risk of wounding the coronary artery when the position of the heart cannot be accurately determined. Attention is called to the practical impossibility of emptying effusions of the pericardium, and this is also true regarding incisions.

The most effective means of opening the sac is furnished by a complete resection of the cartilage of the fifth rib.

In a child of 4 years suffering from suppurative pericarditis H. B. Robinson[63] opened and drained the pericardial sac after excision of an inch of the fifth left costal cartilage. The patient, who was moderately cyanotic, and suffering evidently from cardiac embarrassment before the operation, enjoyed a temporary improvement. Death ensued on the third day, not as a result of the operation, but probably from a bronchopneumonia, and a rapidly-developing meningitis. The pus from the pericar-

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[61] La Presse Méd., June 4, '98.
[62] Deut. med. Woch., No. 2, '99.
[63] Brit. Med. Jour., Nov. 26, '98.

dium yielded an almost pure growth of Friedländer's pneumococcus.

In performing paracentesis pericardii R. Sevestre[64] agrees with Dieulafoy that the fifth space on the left side about 1 inch from the edge of the sternum is the point of selection. After exploratory puncture has been made and pus demonstrated it is better to make an incision in the same space or, if the ribs be too close together, in the space above.

J. H. Burtenshaw[65] found that, from one hundred cases of paracentesis pericardii collected, 38 per cent. made a complete recovery, the others dying anywhere from a few minutes to six months or more after the operation.

TONSILLITIS.

Pathology.—Goodale[66] concludes that acute tonsillitis due to the infection by the streptococcus pyogenes and the staphylococcus pyogenes albus and aureus, is characterized histologically by a diffuse inflammation of the parenchyma of the organ, appearing in the form of an increased proliferation of lymphoid cells and of the endothelial cells of the reticulum, due probably to the absorption of a toxin formed in the crypts. While bacteria are rarely demonstrable in the tonsillar tissue in cases characterized by purely proliferative lesions, yet, at times, infection of the interior of the follicle occurs, giving rise to circumscribed suppuration and the formation of abscesses which eventually discharge into the crypts.

Treatment. — Seth Scott Bishop[67] states that, in tonsillitis with the frequent application of hydrogen dioxide to the ulcerated surface, general treatment may dissipate the attack. It is often advantageous to apply guaiacol, diluted one-half with glycerin, to the inflamed mucous membrane. This is especially true when the temperature is high. A 4-per-cent. solution of potassium bromide is also grateful as a gargle or spray to the inflamed throat, and a coarse spray of a 3-per-cent. solution of camphor-menthol affords relief. Patients derive much comfort from the following formula made into a small tablet:—

℞ Ammonii chloridi, 1 grain.
Tincturæ opii camphoratæ,
Syrupi scillæ compositi,
Syrupi Tolutani, of each, 5 minims.
Extracti glycyrrhizæ, 3 grains.—M.

This tablet is allowed to dissolve slowly in the mouth.

D. J. Griffith Davis[68] advises the following external application in tonsillitis:—

℞ Tinct. iodine, 1 ounce.
Fl. ext. belladonna, 2 drachms.

M. Sig.: Paint over swelled parts as needed. Cover this with an ointment, as follows:—

℞ Acetanilid,
Menthol crystals, of each, 1 1/2 drachms.
Lanolin,
Ung. aq. rosæ, of each, 2 ounces.
Ol. amyg. dulc., q. s.—M.

This is to be applied after the iodine has dried, so as to prevent the skin's blistering and to relieve any pain present. The painting is to be repeated when the discoloration disappears.

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[64] Lancet, Apr. 23, '98.
[65] Med. News, Mar. 11, '99.
[66] Jour. Boston Soc. of Med. Sciences, Jan., '99.
[67] Med. Fortnightly, Apr. 1, '99.
[68] Polyclinic; Therap., Mar., '98.

VOMITING OF PREGNANCY.

Etiology. — Bacon[69] remarks that, while vomiting may commence at any time after the first week of pregnancy, 70 per cent. of all cases begin during the first month, very few developing during the fifth or sixth months. The greatest amount of sickness exists during the second month. Vomiting does not always occur in first pregnancies, but in primiparæ the frequency of its appearance increases with age, so that 90 per cent. of the first cases over twenty-five years of age are more or less affected. Women who menstruate regularly, without pain, and not too freely, have less sickness than those who are troubled with profuse or painful menstruation.

Treatment. — Lefour[70] had a case of vomiting in a pregnant woman which refused to yield to any kind of treatment. Methyl-chloride energetically sprayed on the entire spinal column caused the vomiting to cease.

Richard Frommel[71] found the effect of orexin very prompt in four cases of vomiting of pregnancy. In two cases vomiting stopped entirely in two days, and in the other two it lessened, and ceased within a fortnight. It is prescribed in 4 1/2-grain doses two or three times a day, followed by a little cold water or milk.

F. Hermanni[72] has used orexin in nine cases. It was given in 4 1/2-grain doses in water. In not one did the remedy fail of the desired effect, and relief was afforded in most cases after a few doses. The effect is lasting, even after the drug is discontinued.

In regard to treatment the following suggestions are offered by Bacon[73]:—

1. The abnormal irritability of the nervous system, including the vomiting centre, is to be allayed by keeping the patient in a horizontal position, by attention to the skin, bowels, and kidneys, using rectal and, if necesary, hypodermic injection of salt solution.

2. The hysterical condition which is so commonly present should be controlled by strengthening the will and influencing the dominant idea of the patient.

3. All sources of peripheral irritation should be discovered and treated.

4. In extreme cases subcutaneous saline injections serve the threefold purpose of (*a*) diluting the blood and increasing vascular tension, (*b*) eliminating toxins through renal and intestinal emunctories, and (*c*) furnishing two most important kinds of food.

5. Induction of abortion is never indicated. At a stage when it is safe and efficient it is not necessary, and in extreme cases it adds greatly to the danger, rarely stops the vomiting, and can be replaced by the artificial serum.

In discussing hyperemesis gravidarum Klein[74] comes to the following conclusions:—

1. With Kaltenbach and Frank, the term should be limited to those cases in which the vomiting is set up and kept up by the pregnancy and the patient's nutrition suffers.

2. The reason of the hyperemesis in Kaltenbach's restricted sense is to be sought in a neurosis (Ahlfeld) or hysteria.

3. In the treatment of hyperemesis of the first and second degrees dietetic

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[69] Amer. Jour. of Med. Sciences, June, '98.
[70] Sem. Méd., Feb. 23, '98.
[71] Therap., June 15, '98.
[72] Therapist, Feb. 15, '99.
[73] Amer. Jour. Med. Sciences, June, '98.
[74] Zeits. f. Geburtsh. u. Gynæc., vol. xxxix, Part 1, '98.

treatment by limitation of nourishment to liquids, with mental and bodily rest, is sufficient.

4. If treatment at home is not successful within a few days, treatment in an institution must be proposed.

5. If the vomiting does not then stop, the patient must be transferred to an institution.

6. Local treatment (with the exception of the treatment of dangerous complications, such as retroflexion of the gravid uterus) and treatment by drugs and suggestion are superfluous.

7. In hyperemesis of the third degree the artificial induction of labor is occasionally required.

8. To avoid this the earliest practicable treatment of the hyperemesis in the first and second stages is necessary.

F. A. Kehrer,[75] after having tried various remedies in a case of hyperemesis gravidarum without success, resorted, in the thirteenth week, to packing the cervix with iodoform gauze, with the woman in Sims's position. The vomiting immediately decreased, and in twenty-four hours ceased entirely. Abortion did not take place, and the woman continued to be perfectly well for twelve weeks. Then vomiting began again as violently as before, and in the twenty-sixth week the gauze tamponade of the cervix was repeated. Once more the vomiting was greatly relieved, though not entirely stopped. A third time, in the thirtieth week, vomiting became so severe that the cervical tamponade was used, and following this the vomiting again ceased entirely. In the thirty-third week, the vomiting recurred, and as the child was viable, the pregnancy was terminated, a living child being obtained. The mother made a good recovery. Vomiting of pregnancy can usually be relieved by a 20-per-cent. solution of menthol in olive-oil, 10 drops being taken on sugar.

J. Riddle Goffe[76] notes an interesting case of severe vomiting seen in consultation in a woman three months pregnant. She had been suffering from persistent vomiting throughout the entire course of gestation. During the three weeks previous to consultation the patient had been nourished entirely by rectal injections, not even a swallow of water being retained by the stomach. She was nervous and anxious, almost pulseless at the wrist. The amount of urine passed had been very scant, but was attributed to the limited quantity of fluid ingested or absorbed. It was normal in character, except for the presence of a small amount of albumin. Light anæsthesia was induced by chloroform, the cervix uteri dilated, and the uterus emptied of its contents and packed with iodoform gauze. Upon recovering from the anæsthetic the condition of the stomach did not improve, nor did the kidneys resume their function. Upon the following day her condition was desperate. She was absolutely pulseless at the wrist; her arms were cold above the elbows and her feet and legs above the knees. The temperature was 101° F. The median basilic vein in the left arm was opened, and from an ordinary douche-bag, rendered sterile by boiling, a current of normal salt solution at a temperature of 110° F. was allowed to run into the vein. The temperature of the water in the douche-bag was maintained by preparing a quart or two at a time and keeping the bag wrapped in hot bichloride towels. The pulse steadily improved, and, as the process went on, the color gradually re-

[75] Canada Med. Rec., Jan., '99.

[76] Denver Med. Times, Apr., '99.

turned to her lips and cheeks, and she dropped asleep. Her pulse was now strong and full and the breathing perfectly natural. The infusion was therefore continued, and when two quarts had been injected beads of hot perspiration began to appear upon her forehead and face. This gradually spread over the entire body, but the injection was proceeded with, until by careful measurement five quarts had been used. The time consumed in the infusion was forty-five minutes. The patient was then wrapped in blankets and covered with a rubber sheet to maintain the process of perspiration. At the end of two hours and forty-five minutes the catheter was passed and thirteen ounces of urine withdrawn—the first the patient had passed for forty-eight hours. The nitric-acid test demonstrated 50 per cent. of albumin. During the next twenty-four hours the patient passed eighty-three ounces of urine, and from that time she steadily improved, until at the end of two weeks she was able to return to her home. The results accomplished were due to two factors: First, the high temperature of the infusion, and, secondly, to the large quantity which was employed.

Cyclopædia of Current Literature.

ABSORPTION IN CHILDHOOD.

The conclusions concerning the results of a series of experiments made with the view of determining the conditions which influence the process of absorption in children are as follow:—

1. If food, either in a solid or liquid form, be introduced into the stomach immediately after the latter has been carefully washed out, the result is that absorption from the mucous surface of that organ takes place, contrary to the general expectation, far less vigorously than before the stomach has been subjected to this treatment. 2. During the existence of a high temperature, either of a continued or intermittent character, the absorbent power of the stomach and rectum is considerably retarded. 3. The age of the child, as such, does not in any way, either at a normal or at an elevated temperature, influence the process by which absorption from the mucous membrane ensues. There is, however, at least one exception to this statement. Clinically it has often been proved that during the period of suckling, absorption—and especially from the rectum, varying of course with each individual child—is, on the whole, much slower than at a somewhat more advanced age, —say, after one year and a half; and it has more than once been ascertained that at the age from 2 to 5 years no mucous membrane of the body is so susceptible to quick absorption as that of the rectum. 4. It is noteworthy that with the approach of death absorption from the rectum is absolutely *nil*,—a fact which might aid in forming the prognosis of a given case. 5. The author has convinced himself that solutions of iodide of potassium applied to the skin are not absorbed,—provided, of course, that the latter is in a normal uninjured condition. W. Jakubowitsch (Meditzinskoje Obosrenije, Jan., '99).

ANGINAS OF SCARLET FEVER.

Treatment. — The use of diphtheria antitoxin in the treatment of anginas of scarlet fever should be limited to those

cases in which the Klebs-Löffler bacillus can be looked upon as the cause; but careful disinfection of the pharynx and nasal passages with suitable solutions should be practiced. Traube's method of injecting a 3-per-cent. solution of carbolic acid into the tissues of the tonsils and soft palate should be practiced as soon as enlargement and tenderness of the lymphatic glands of the neck give evidence of septic infection, and should be kept up until the temperature reaches normal. A daily injection of 15 minims of the 3-per-cent. solution is distributed by a number of punctures over the area involved. The pain produced is of short duration, and a marked improvement in the dysphagia is at once experienced, due to the anæsthetic effect of the carbolic acid. Nephritis is not a contra-indication for the employment of this treatment. The urine may show the color of carbolic-acid poisoning, but this rapidly disappears on discontinuing the injections. Blackader (Progressive Med., Mar., '99).

APPENDICITIS.

Treatment. — The treatment in the early stages of appendicitis should be as follows:—

1. Copious warm soap-and-water enemata should be given with the object of evacuating the lower bowel.

2. The hourly administration, until the bowels move freely, of small teaspoonfuls of sulphate of magnesia dissolved in about 2 wineglassfuls of warm water. It usually takes from six to eight doses before the bowels commence to move.

3. Hot linseed poultices should be applied to the right iliac region for the relief of pain (opium should be avoided on account of its tendency to mask symptoms and confine the bowels).

4. Whey, chicken-tea, meat-jellies, etc., should be given. Milk only encourages constipation. Ernest Maylard (Glasgow Med. Jour., '99).

CARBOLIC ACID IN SURGICAL PRACTICE.

In mammary, palmar, ischio-rectal, and tuberculous abscesses no difficulty need be experienced in controlling suppuration if carbolic acid is properly used. The abscess should be opened through an incision only large enough to empty it completely and the cavity thoroughly cleaned out by irrigation, swabbing, or curetting. After this is done the cavity should be first filled with strong carbolic acid, and the acid evacuated, then filled with alcohol and the alcohol evacuated.

Bone-abscesses are also amenable to the treatment. In palmar abscesses, the usual free incisions are not necessary. An hypodermic-syringe needle is deeply inserted, and, as it is slowly withdrawn, a solution of cocaine is injected, then a small buttonhole opening is made and carbolic acid and alcohol successively injected, after which a simple carbolized dressing is applied. As alcohol perfectly counteracts the effect of carbolic acid, it must be looked upon as a true antidote, a 25-per-cent. solution of alcohol suffices to counteract the effect of the acid. Seneca Powell (Med. Record, Mar. 11, '99).

CAUDA EQUINA, DISEASES OF.

In diseases of the cauda equina the seat of the lesion is to be recognized by the co-existence in the genito-urinary tract, the intestines, the abdominal walls, the buttocks, and the legs, of irregular, asymmetrical disturbances of motility, sensation, and nutrition. In an acute affection of the spinal cord the symptoms are more or less symmetrical, wide-

spread, and parallel in their development, distribution, and intensity; whereas, when the cauda equina is encroached upon, the irregularities in the effects of pressure or of inflammation upon the different strands cause an extraordinary irregularity in the intensity and collocation of the symptoms; so that one leg, or one group of muscles, or one nerve-area may be involved, while the contiguous parts are unaffected and the opposite side of the body is, perhaps, in its normal condition; hyperæsthesia may abut on anæsthesia, a group of wasted muscles may be surrounded by normal muscle-masses, the knee-jerk may be absent in one leg and present in the other, etc.

By some authorities paradoxical ischuria is believed to be pathognomonic; it consists of repeated alternating paroxysms of incontinence and of retention. Defecation and micturition may be painful, with much tenesmus. The peculiar characteristic irregularity of the symptoms is well shown by a case reported by Bernhardt, in which sexual desire was present, but in which, although the sensation of orgasm occurred during coitus, there was no ejaculation, evidently on account of paralysis of the bulbo cavernosal and ischio-cavernosal muscles. Horatio C. Wood (Univ. Med. Mag., Apr., '99).

ENTERITIS, MEMBRANOUS.

In membranous enteritis, or mucous colic, abundant nourishment is of the greatest value. An ample mixed diet, containing plenty of vegetables, should be given. In severe attacks, rest in bed, warm poultices to the abdomen, a cleansing enema of warm water, and afterward the administration of codeine or opium, with or without belladonna, and light food, is the best treatment. In the intervals free from pain the treatment consists in the methodical use of enemata of oil, as suggested by Kussmaul and Fleimer. One-half to 1 pint of oil at blood-temperature is injected into the bowel at night. The patient should try and retain the enema all night. The oil should be injected every night for three weeks; every other night for three weeks; twice a week for four weeks; finally a weekly injection for five or six months. In addition, patients must accustom themselves to a regular morning evacuation. The results achieved by this method of treatment are very satisfactory. Max Einhorn (Med. Record, Jan. 28, '99).

ERYSIPELAS.

Treatment. — The frequency of nasal affections in cases of facial erysipelas is very striking. An application of a 50-per-cent. watery solution of ichthyol should be used to the anterior nares and as far back as possible over the posterior nares. A 25-per-cent. solution in collodion should be applied to the skin. Practically no internal medication is required. C. W. Allen (Med. News, Apr. 8, '99).

EYE COMPLICATIONS IN MEASLES.

Treatment. — Treatment in the early stages of the eye inflammations in measles is very important. For the conjunctivitis simple warm, boric-acid lotion, with a little boric-acid ointment along the edges of the lids to prevent their sticking, is all-sufficient. If the tears are profuse, hot, and scalding, an alkaline lotion (bicarbonate of soda, 10 grains to the ounce) gives relief. When marginal blepharitis is present, the scabs should be diligently removed (a rather painful process) and dilute ammoniated-mercury ointment applied. The removal

of the scabs will be facilitated by using a borax lotion. Ulcers must be treated in the ordinary way, cleanliness being insured by frequent boric-acid fomentations, atropine drops, and a shade over both eyes, or dark glasses may be worn; and it is often best to get these children out-of-doors (provided the general condition permits), protected from the light by dark glasses. Percy Flemming (Brit. Med. Jour., Apr. 29, '99).

GARGLING, VALUE OF.

In order to determine the therapeutic value of gargling the tonsils of a patient suffering with angina were touched with methylene-blue, and the patient gargled with clear water immediately afterward —the water came out untinged. In some experiments the water issued slightly colored. When the tonsils, the soft plate and a part of the tongue were powdered with flour, and the patient gargled with an iodine-glycerin solution, a blue color developed only on the tongue and velum, not on the tonsils. Sometimes a person is found that has the ability so to gargle that the gargling fluid reaches parts behind the anterior pillars of the fauces; such skill, however, is rare. Gargling in throat affections has the disadvantage that it puts into action the very parts that should be at rest. Instead of gargling direct applications should be used without rubbing. The surface should be merely touched. Saenger (Münch. med. Woch., Feb. 21, '99).

GAS-POISONING.

Treatment.—A person exposed to carbon monoxide when placed in normal air gradually eliminates the gas from the blood, so that after some hours it completely disappears. In any case where urgent symptoms of suffocation are present pure oxygen should be administered. The second factor to be considered in the pathology is the after-effect to the patient of being nearly suffocated. The more important elements of this are: 1. The reduction of the body-temperature. The patient, if cold, should be warmed as rapidly as possible by the ordinary means applied externally and internally. 2. When the blood is over 30 per cent. saturated with carbon monoxide, even slight muscular exercise produces violent headache, and if the saturation be a little higher, the exercise causes giddiness. Therefore when the blood is highly saturated with carbon monoxide the treatment should include complete rest. 3. An increased excitability of the nervous system is seen in the convulsions and tetanic spasms which occur, and the patients not infrequently die from damage to the nervous system hours after being removed from the gas. 4. The heart is frequently affected. 5. The patients sometimes develop pneumonia after exposure as a result of lowering the normal resistance to the pneumococcus. J. Lorrain Smith (Brit. Med. Jour., Apr. 1, '99).

GASTRO-ENTEROSTOMY, REMOTE EFFECTS OF.

In a review of twenty cases the following conclusions are reached: 1. In the great majority of cases the symptoms disappear or are greatly diminished, appetite returns, and the general health improves. In two cases where this did not happen there were extensive lesions (adhesive peritonitis). The good results are seen equally well in cases of pyloric stenosis and simple dyspepsia. Cases of the latter calling for operation are those which have not yielded to medical treatment, and are mainly characterized by pain, with or without dyspeptic symp-

toms, coming on a considerable time after ingestion (*syndrome pylorique*). The improvement in cases of non-malignant stenosis of the pylorus is very remarkable. In malignant disease it is otherwise. Any improvement is of a slight duration, the anæmia and feebleness persisting. Resection, where possible, is the preferable operation.

2. The stomach resumes its normal dimensions often immediately after operation. If, however, dilatation has been slow and gradual, the retraction is apt to be imperfect; so, too, when there are adhesions.

3. No new sphincter is developed, but experiment shows that the stomach can be inflated to a considerable extent before the new orifice yields. This it does in response to muscular contraction. In one case where the stomach could not be distended, Murphy's button was found *in situ* a month after operation.

4. The motor functions of the stomach are slightly impaired. Gastric digestion is prolonged, but the patient does not seem to suffer thereby.

5. Gastric secretion is profoundly influenced, but great varieties are observed. It is always retarded.

6. Bile is generally found in the stomach, and probably finds its way there *viâ* the new orifice. Its presence seems to have no special import.

7. Diarrhœa is frequent after the operation, but the bowels soon act regularly. Constipation disappears. The urine also assumes its normal characters. In stenosis of the pylorus the quantity of the urine and urea excreted is in strict proportion to the degree of constriction, whether that be caused by ulceration or carcinoma. Provided the kidneys are healthy, the amount of urine and urea depends upon intestinal absorption; hence the improvement in the renal functions after gastro-enterostomy. Hartmann and Soupault (Rev. de Chir., Feb., '99).

HÆMOPHILIA.

Excellent results were obtained in an hæmophilic family in whom tooth-extraction was always dangerous, from the use of ethyl-chloride spray, with which the cavity from which the tooth was taken was immediately frozen, a hard mass of blood which acted as a tight and uniform compress being frozen into the cavity. Davies (Brit. Med. Jour., Feb. 11, '99).

HÆMORRHAGE, POST-PARTUM.

Treatment.—The preparation for every labor should preview hæmorrhage. There should be at hand at least five yards of sterilized or antiseptic gauze for packing the uterus, sterilized vinegar, a sterile douche-bag, and the kettle should be full and boiling. The obstetric outfit should contain two pairs of double vulsellum-forceps, long uterine packing forceps; a broad perineal retractor, not too long; in addition to full-curved round needles and a long needle-holder, for sewing up lacerations. These instruments should always be boiled with the forceps, or in preparation for other operative deliveries. An apparatus for the injection of saline solution under the skin should never be wanting in the obstetric bag, and the hypodermic syringe should be in working order.

When hæmorrhage occurs, if the placenta has not been delivered, it should be removed at once; vigorous massage should be employed till the uterus hardens, then a strong Credé expression. If this be unsuccessful, it should be removed manually. The severity of the bleeding may indicate the latter procedure at the start. If the flooding occurs after the third stage, the most suc-

cessful remedy is the compression of the uterus. One hand gathers the cervix together and holds it tight, the outside hand forces the fundus down on the inside hand, at the same time massaging it vigorously. The uterus is bent like the letter V and its walls crowded together. Compression of the aorta is valuable in these cases. Another method that may sometimes be employed is pulling down the cervix by means of vulsella, to the outlet or even farther.

The sovereign remedy against hæmorrhages that come from atony of the uterus, as well as those that come from lacerations involving the large vessels, is the tamponade of the utero-vaginal tract. The method may be used when the foregoing ones have not stopped the bleeding definitely, or when the gush of blood is so great that a few moments will jeopard the patient, and it should be employed in all cases before the woman is exsanguinated. The anterior lip of the cervix is grasped with a vulsellum-forceps and given to an assistant, the posterior lip being likewise held by the operator. With a long uterine packing forceps the uterus is packed tightly from the fundus down, with gauze. Three to five yards one yard wide may be used, sterilized, borated, or washed out in iodoform. Plain or borated gauze wrung out of lysol solution is personally preferred. After packing the uterus the vagina is packed also, using cotton, and tightly. In two cases, however, a slight oozing took place through the tampon, which, though not dangerous, seemed undesirable and to be avoided if possible; so, after packing as much gauze into the uterus as it would hold—three to five yards—the two lips of the cervix were brought together over the tampon, by the vulsella, and sewed together tightly, completely closing up the uterus. In the two cases in which this was done the effect was immediate, but as an additional precaution the vagina was also packed. In twenty-four to thirty-six hours the vaginal packing was removed, likewise the stitches in the cervix. The uterine tampon was left for another twenty-four hours, or two days, when it also was drawn out gently, a little at a time. If assured that uterine action is deficient, massage, compression of the uterus; a hot, 120° F. douche; the use of vinegar, and the tampon may be employed in order, always remembering not to wait with the most efficient means of all—the tamponade—till it is too late. A cervical laceration should be sewed up, if there is time; if not, one should tampon the whole parturient canal. Ergot is given in all cases. In order to combat the anæmia a 6-per-cent. salt solution either under the skin or injected into a vein should be used. Among the hypodermic stimulants, camphorated oil and strychnine are most worthy of confidence. Ether should be injected only to tide the patient over a dangerous syncope. The foot of the bed should be raised as soon as the patient may be left alone, the body being inclined at an angle of 25 degrees. She should be kept warm by means of external heat and by not being exposed more than is absolutely necessary. Hot coffee, water, and wine should be given by mouth, and saline solution per rectum. J. B. Delee (Jour. Amer. Med. Assoc., Apr. 15, '99).

HICCOUGH.

An error was made in the prescription given in the preceding issue of the MONTHLY CYCLOPÆDIA for the treatment of this condition. The formula should read as follows:—

For gastric cough and hiccoughs

Robin (Semaine Médicale, Feb. 16, '98) gives a teaspoonful every hour of the following, never taking more than a third of the whole during the twenty-four hours:—

℞ Potassium cyanide, $^3/_4$ grain.
Syrup of morphine,
Syrup of orange-flowers, of each, 2 $^1/_2$ ounces.—M.

Treatment.— In a patient that was suffering from very obstinate hiccough following an operation for hæmorrhoids, 2 minims of a 1-per-cent. solution of nitroglycerin with a drachm of the spirit of chloroform in $^1/_2$ ounce of water given every hour resulted in a cure in five hours. R. W. S. Christmas (Brit. Med. Jour., Mar. 11, '99).

ICE-MASSAGE.

A case of painful rheumatoid arthritis of the left hip, a case in the first acute attack of rheumatoid arthritis, and a case of pemphigus with acute and painful joint-affections were treated by ice-massage, the exposed surface being gently rubbed with a smooth block of ice for a few minutes at a time. This resulted in immediate relief of the pain, which relief lasted a considerable period of time. This remedy has also been applied with success for the relief of the severe pleuritic pain which commonly accompanies acute pneumonia. Ewart (Lancet, Apr. 8, '99).

INEBRIETY, CAUSES OF.

In regard to dietetic causes of inebriety the following conclusions are reached: 1. Inebriety is a most complex neurosis. The causes are equally complex, and include all the various states of degeneration which influence and disturb nutrition.

2. Obscure indigestion begins, and for this drugs and bitters containing alcohol are used. The narcotism which follows is so grateful that it is continued.

3. Dietetic delusions are fostered in the minds of parents and children, and from this many different forms of inebriety begin.

4. Often the most maniacal and chronic inebriates are from these delusional dyspeptics.

5. Starvation is present in many of these cases. The quality and variety of foods are deficient, and defective nourishment follows.

6. The uniformity of taking foods and the quality and variety are essential. This and nutritional rest and mental anxiety are important factors.

7. The inebriety following these conditions is successfully treated by elimination of the toxins and special correction of the nutrition.

8. Nutrition is a very active cause in the production of inebriety, and should receive a careful study in all cases. T. D. Crothers (Quart. Jour. of Inebriety, Apr., '99).

LEUCOCYTOSIS.

The following are some of the most important prognostic and diagnostic points to be gained from the presence or absence of leucocytosis in disease:—

In malignant disease a steady rising count foretells a fatal termination.

Uncomplicated typhoid fever, measles, and all forms of simple tubercular infection except meningitis do not show any leucocytosis. In pneumonia the leucocytosis may appear before the physical signs, as in central pneumonia. Absence in any but a mild case is a bad prognostic sign, the termination almost invariably proving fatal. Thus, in 408 cases 29 showed no signs of leucocytosis and 28 died. The count in pneumonia begins to fall before the temperature,

but reaches normal after it, and it does not fall in a pseudocrisis, and in cases of non-resolution and consolidation after drop of temperature the leucocyte-count continues high. In typhoid fever the appearance of a leucocytosis would point to perforation, otitis, phlebitis, or some other complication, rather than a relapse.

In diagnosis between scarlet fever and measles leucocytosis favors the former.

In diagnosis of appendicitis presence of leucocytosis would exclude typhoid fever, simple obstruction of bowel, uncomplicated biliary or renal colic, impaction of fæces, ovarian neuralgia, floating kidney, and many other non-inflammatory conditions referable to the abdominal organs. W. L. Ellis (Maritime Med. News, Apr., '99).

LOCOMOTOR ATAXIA.

Believing that syphilis is the case of the vast majority of cases of tabes, personal attention has been practically confined to this factor, in studying the etiology of tabes.

The sexual histories of 1238 men who came to the neurological dispensary suffering from all sorts of troubles were analyzed, and in them was found certain syphilis in 10.9 per cent. and possible or probable syphilis in 21.4 per cent. The following sums up what the cases studied here seem to show:—

1. In a large proportion of cases of tabes a history of syphilis can be obtained.

2. In a certain and not inconsiderable number of cases there is no history of a venereal sore or other syphilitic manifestations.

3. In negroes tabes is relatively uncommon, whereas syphilis is much more common in them than in the white population.

4. The partial immunity of women is greater than can be satisfactorily accounted for by the relative infrequency of syphilis among them.

The fact that it was impossible to elicit the history of syphilis in 36 per cent. of the cases does not, of course, prove that syphilis was not present in a large proportion of these cases. Tabes developed after venereal sore in 47 cases. In the first 5 years 6 times; in the second 5 years 10 times; in the third 5 years 13 times; in the fourth 5 years 10 times; in the fifth 5 years 4 times; after 25 years 4 times. As to the other causes of tabes, nothing important is shown by the histories. H. M. Thomas (Bulletin of Johns Hopkins Hospital, Apr., '99).

MALARIA, CHRONIC.

Treatment. — There will be very few cases of chronic malaria if the first attack is always carefully treated for six weeks at least and the blood examined microscopically at intervals for nine months after apparent recovery. The treatment commences with a mercurial laxative and is followed with quinine, so timed that the last portion of the desired quantity of quinine is given one or two hours before the expected time for the chill. Ginger in an equal dose, and capsicum in one-fourth the dose, are valuable adjuvants to quinine. In the treatment of forty-seven cases of Cuban malarial fever occurring in the returned soldiers, exceptionally good results were obtained from a combination of quinine and paregoric. W. H. Thomson (Phila. Med. Jour., Apr. 29, '99).

MALARIAL PARASITES, NEW METHOD OF STAINING.

A very quick process of staining malarial parasites in dry specimens and very

serviceable in cases where one is called out to see a suspicious case and has not a microscope at hand with which to examine the fresh blood, is as follows:—

The dried-blood specimens, made in the usual way described by Ehrlich, are fixed in a $^1/_4$-per-cent. solution of formalin in 95-per-cent. alcohol. It is important that the formalin solution should be made up fresh every time it is used. Satisfactory results have been obtained by adding 4 or 5 drops of a 10-per-cent. aqueous solution of formalin to 2 $^1/_2$ drachms of 95-per-cent. alcohol just before using. The specimens are fixed in this solution for only one minute, washed in water, blotted, and then stained in the special mixture, which consists of a saturated solution of thionin in 50-per-cent. alcohol of which 2 $^1/_2$ drachms are added to 3 ounces of a 2-per-cent. carbolic-acid solution. This solution can be kept in stock and used as required. Only ten to fifteen seconds are required for staining. The malarial parasites come out very distinctly as reddish-violet bodies with this stain, and it is especially serviceable in staining the ring-shaped bodies of the æstivo-autumnal infection. With the thionin stain the parasites retain the color much better than they do when stained with methylene-blue.

The method of fixing and staining malarial parasites is then as follows:—

Make the ordinary smear preparation, fix in the formalin solution for one minute, wash in water, thoroughly dry, and stain with the thionin solution for from ten to fifteen seconds,—ten will probably give the most satisfactory results. Wash off the excess of stain, blot, mount in balsam, and the specimen is ready to be examined. The whole preparation does not last for more than two minutes from the time of beginning until it is ready for examination. Futcher (Bulletin of Johns Hopkins Hospital, Apr., '99).

MILK-MODIFICATION.

The "materna," a new and simple apparatus for the home modification of milk, consists of a glass graduate so marked that by putting into it the different ingredients of a milk-mixture, up to the different horizontal lines cut in the glass, mixtures of different percentage-strengths can very readily be produced. The markings are scientifically correct and each glass is tested before it is put on the market. The apparatus is to be very highly recommended. J. P. C. Griffith (Pediatrics, Apr. 15, '99).

MORPHINISM.

Treatment.—The action of dionin appears to lie midway between morphine and codeine. It has been found useful during the withdrawal of morphine from *habitués* of the drug. In one case of morphinic addiction, extending over three years, with daily doses of about 8 grains, it was determined that the patient could exist on 2 grains daily without withdrawal symptoms; dionin was given, while the minimal dose of morphine was further reduced. In eleven days all the morphine had been withdrawn. The dionin was withdrawn slowly (in three weeks) without difficulty. Dosage of dionin is one-third higher than that of the morphine. Heinrich (Weiner med. Blätter, Mar. 16, '99).

The following method of treating chronic morphinism is recommended as simple, safe, and satisfactory. A bottle of medicine containing 5 grains of bromide of sodium to a drachm is ordered, and a drachm of the mixture is given every three hours, the dose is increased

by a drachm every day. By the time the patient is taking the $^1/_2$-drachm doses of bromide every three hours for a day or two he will probably be able to do without his morphine. If the drowsiness by this time is profound, the bromide may be stopped; if it is not very deep the dose can be diminished by 5 grains every day until no more is required. J. C. Verco (Australasian Med. Gaz., Mar. 20, '99).

NEURITIS.

Treatment.—Static electricity has been successfully used for the cure of neuritis. The spark may be applied directly to the tender points even in the earliest stage. The patient may be connected with the prime conductor of the machine so that he does not form a part of the circuit, but is subjected to powerful electric surgings that are painless. Under this treatment relief is immediate, cure occurs usually within a short period, and it is not necessary for the patients to remain absolutely at rest. William J. Morton and W. B. Snow (Med. Record, Apr. 15, '99).

ŒDEMA, TRAUMATIC CEREBRAL.

A final summary of all the evidence at command in reference to traumatic cerebral œdema simply serves to confirm the conclusions already advanced:—

1. That traumatic cerebral œdema can find no place as a pathological or clinical entity.

2. That it is primarily the inevitable sequence in time of that complex of pathological conditions which we designate contusion.

3. That inasmuch as contusion of the brain and its meninges is most commonly met with as a concomitant lesion to the more macroscopical lesions designated hæmorrhage and laceration, the primary seat and extent of its accompanying œdema will be largely fortuitous.

4. That in the rare instances in which the application of a traumatizing force is expended in the production of a local contusion of the brain-cortex or its meninges the brain is of itself abundantly able to rid itself of the œdema through its venous channels.

5. That in the remaining cases in which the contusion is primarily extensive in the cerebrum, or when it affects the cerebellum or bulb, the factors which enter into the mechanism of the production of the œdema are such as to preclude the possibility of operative relief.

6. That contusion can, *per se*, easily cause death.

7. That death in such cases results from anæmia of the bulb. J. W. Courtney (Boston Med. and Surg. Jour., Apr. 27, '99).

OPHTHALMIA NEONATORUM.

The conclusions as to the necessity of prophylaxis in ophthalmia neonatorum are as follow:—

1. The absence of external evidence of specific discharge from the birth-canal cannot be relied upon as an indication that specific infection does not exist, as infection may be present without external evidence.

2. Reliance upon the condition of the infant's eyes as indicative of a coming attack of gonorrhœal conjunctivitis, and consequent postponement of treatment until symptoms appear, are apt to be deceptive, as during the period of incubation the gonococcus may to a certain extent lie dormant, clinical symptoms may be masked, and precipitation of the disease itself may be abrupt.

3. The objections to nitrate of silver as a prophylactic and remedial agent do

not seem to be clinically sustained; on the contrary, it possesses ideal properties for counteracting this disease.

4. The discrimination between private and hospital patients in the practice of prophylaxis in this manner is thoroughly inconsistent, as the disease is common to both classes.

5. The comparatively small number of cases seen in individual practice, and the subsequent successful treatment of them, cannot be regarded as a contra-indication to the general adoption of careful prophylaxis, as the aggregate number of cases of total and partial blindness resulting from this disease is large.

At the time of birth careful cleansing of the infant's eyes with a solution of 20 grains of boric acid to the ounce should be practiced, care having been taken to render sterile the surrounding portions of the orbit; and then 1 drop of a solution of nitrate of silver, 10 grains to the ounce, should be instilled between the lids and upon the cornea. After birth some mild cleansing wash, preferably boric acid in solution of 20 grains to the ounce, should be used three or four times daily, from five to six days after birth. P. E. Jameson (Med. Record, Mar. 4, '99).

OXYURIS VERMICULARIS.

Treatment.—The idea that the rectum is the chief habitat of the thread-worm is erroneous and misleading; it is here that the worm, perhaps, most often causes symptoms,—namely, itching and worry,—but it is not here that the worm is most commonly found. It is most often present in the cæcum, and in two-thirds of the cases it is present also in the vermiform appendix; moreover, in some cases it is found in the small intestine.

Any injection, therefore, which is only large enough to reach the top of the rectum or the lower part of the colon is not likely to do much good. Injections are of the greatest importance, but it is essential that large quantities of the fluid should be used,—a child of 6 to 12 years will tolerate often as much as 16 to 20 ounces,—and experience has shown that large injections of salt and water or of infusion of quassia are often effective.

Treatment by injection alone, however, often fails. It is necessary, therefore, to give drugs by the mouth also, and no drug has proved more effectual in personal experience than santonin. At the same time the prevention of any possible conveyance of ova to the mouth must be attempted, for this is probably one mode of keeping up the supply of worms, and the cutting short of finger-nails and the prevention—by mechanical restraint if necessary—of scratching of the anus are no unimportant adjuncts to treatment. G. F. Still (Brit. Med. Jour., Apr. 15, '99).

PEDICULOSIS CAPITIS.

Treatment.—The treatment of pediculosis capitis must not only be curative, but preventive. It is absolutely necessary, in order to obtain a permanent release, to remove all causes of possible contagion. Individuals similarly affected are to be avoided. All head-coverings should be subjected to a process which will effectually destroy the parasites and their ova. Combs and brushes must be thoroughly cleansed each time after being used, and no other individual should be permitted to use them any more than hats, caps, or similar articles of dress worn by any one who has the affection. In the case of males, the hair is to be clipped very close. All ointments should be avoided, as liquid preparations are more agreeable and clean,

and can be applied more thoroughly. In the case of females with long hair, if cutting it off meets with objections, a thorough shampoo with sapo viridis is unexcelled. Among the curative agents, benzin is quite popular in Russia, and must be well applied. Among the highly-lauded preparations is a solution of bichloride of mercury varying in strength from 1 in a 1000 to 1 in 5000. In the use of all of these it is well to wash the scalp thoroughly with sapoderm and water previous to each application. An 8-per-cent. solution of creolin is efficient.

One of the best remedies to be employed is campho-phénique, which not only kills the parasite and destroys the ova rapidly, but has the further beneficial effect of acting as a vulnerary on the secondary lesions which have been brought on by scratching. It may be used two or three times daily, but the scalp must be well dried previous to each application. A. H. Ohmann-Dumesnil (Tri-State Med. Jour. and Pract., Apr., '99).

PNEUMONIA, CROUPOUS.

Treatment.—As soon as croupous pneumonia is diagnosed, the treatment is as follows: A pair of hot-water bags are selected, the largest size found in the shops, preferably of the capacity of a gallon. These are filled with boiling water, well secured from leakage, and each one wrapped in a small shawl of compact texture, or in a portion of blanket cut for the purpose. They are then placed side by side on the bed so that the mouths of the bags point upward; over them is placed a third shawl, folded several times, or a further piece of blanket; above them two or possibly three pillows are arranged for the patient's head. The bags thus form a sort of shallow cradle for the post-scapular regions. To make the plan clear to the attendant he is told that the bags must be placed like a knapsack on the back of a soldier and a little higher up as well. The bags are refilled every three or four hours. The exterior temperature, found by placing a common atmospheric thermometer between the coverings of the bags and the patient, varies from 95° to 130° F. A mean temperature of 110° F. should be aimed at, as an elevation of 120° F. or more is liable to inflict severe burns on the skin. The bag treatment is continued without intermission until the body-temperature returns to normal and remains so for a day or two. In croupous pneumonia the diet should be of liquid foods of any description, the ideal ones being milk and cocoa. No remedial treatment is necessary. The nursing of croupous pneumonia should be one of constant attention. Louis Kolipinski (Maryland Med. Jour., Mar. 25, '99).

PNEUMONIA, TREATMENT OF, BY SALICYLIC ACID.

So far as salicylate of sodium has been used under personal notice it closely approximates a specific for lobar pneumonia. Eight to 10 grains are given every two hours. With reference to the other usual agencies that are employed in the treatment of the disease, they should be used exactly, and for the same indications as if the salicylate were not being administered; but, no matter how desperate the case may seem, the remedy should not be abandoned. Results of the administration of the salicylate are these:—

1. In the beginning of an attack it quickly quiets the tumultuous pulse.

2. It acts as a sedative to the general

nervous excitement that is prevalent through that period; indeed, it seems to act as an hypnotic all through the course of the disease in many instances, as a fair proportion of the patients have slept a major part of the time until recovery had become well established.

3. It almost surely and quickly gives relief from the pleuritic pains.

4. It seems to inhibit the manifestations of malignmental symptoms. Thus far none of the patients has developed the least delirium after beginning to take the drug, except the first, and five cases of drunkard's pneumonia, in which the delirium preceded the disease.

5. The pulse remained full and not overrapid to the end, except in one case; cardiac symptoms due to the disease itself have been unnoticed and symptoms of a "tired heart" do not often occur.

6. After the first few doses of the drug the patient will perspire freely as long as the diseased condition of the lung persists, but either from this cause, or from some other that the author is not cognizant of, the temperature seldom exceeds 103° F.

7. The cases will show a far smaller percentage of complications than is usual.

8. In nineteen out of twenty cases the disease will subside by lysis.

9. The length of time required for recovery is less than is the rule with patients that recover under the usual treatment and by lysis.

10. The infected lung-tissue progresses to resolution more slowly than it does with the average case, though complete recovery from an attack—that is return to normal health—is more expeditious.

11. There is a marked diminution in the severity of the disease, all conditions being taken into consideration. William C. Sebring (Med. Record, April 22, '99).

SALINE IRRIGATION IN ABDOMINAL OPERATIONS.

Post-operative irrigation is nearly always harmless, and nearly universally useful if the following precautions be taken in its use:—

1. Normal saline solution should be used rather than plain hot water.

2. The temperature of the fluid should be a little above blood-heat, unless in cases of severe hæmorrhage, when irrigation should be confined to the affected area and the stream shut off as far as possible from viscera not implicated.

3. Irrigation should be avoided in septic cases.

4. It should not be too prolonged, since a sodden peritoneum is likely to suffer damage as an absorbing agent, if it be not irritated into such a suspension of this function that blood and plasma might be left unabsorbed for a dangerously long period.

5. When not required for cleansing purposes or as an hæmostatic, equally good or better results will be obtained by pouring into the abdomen a quantity of normal sterilized saline solution, or by injecting it into the rectum. George A. Hawkins-Ambler (Brit. Gyn. Jour., Feb., '99).

SOMATOSE, ADMINISTRATION OF.

The best method of preparing somatose is as follows: A wine-glass is filled with cold water, and then 3 teaspoonfuls of somatose added, which must be sprinkled on the top of the water. The wine-glass should be moved as little as possible, so that the somatose remains on the surface of the water. After a few hours the solution is ready for use. The quantity required during the day is best

prepared the evening before. In the morning a third part may be taken with milk, at lunch, and later at dinner; after the morning portion the remainder should be mixed with soup or porter. Joachim (Pharm. Zeits., No. 87, '98).

SORE THROAT, SYPHILITIC.

Next to the genito-urinary organs, the tonsil is the most frequent location of change. In the secondary stage, even before the characteristic spots have made their appearance, severe pain will be experienced in the pharynx, the origin of which is sometimes difficult to locate. In this stage, as well as in the tertiary, constitutional treatment should be the main reliance, although local applications should be used. J. S. Moreman (Charlotte Med. Jour., Jan., '99).

STYPTICIN.

Stypticin possesses valuable hæmostatic properties. In certain forms of uterine hæmorrhage it is almost a specific. If a quick result is to be achieved, an injection into the glutei of 20 minims of a 10-per-cent. solution in sterile water with the customary antiseptic precautions may be given. H. J. Boldt (Med. News, Apr. 8, '99).

SUPRARENAL BODIES.

The extract of the suprarenal glands is a direct stimulant to the heart or blood-vessels or both, and when injected into the veins of the lower animals causes a marked increase in the respiratory rate, therefore strongly indicating that the suprarenal extract will prove of great value in various cases in which there is a failure of the heart, and especially of the blood-vessels. Huchard has obtained excellent results in neurasthenia from the administration of 15 to 30 grains daily of the suprarenal gland. The employment of the adrenals as a general circulatory stimulant is much limited by the fact that it seems to exercise no effect when given by the mouth, and but comparatively little when given hypodermically. If we wish to employ it as a circulatory stimulant it must be given intravenously. It is evident that in human medicine the intravenous injection of an extract, with the accompanying danger of untoward effects from the presence of septic or other organic matters distinct from the active principle of the drug, is scarcely to be justified. The greatest progress toward obtaining the pure principle has been made by Abel. He has isolated the active principle of the suprarenal gland in the form of a powder of a light gray or brownish color. H. C. Wood (Merck's Archives, Feb., '99).

SYPHILIS AND THE LIVER.

The broad features characterizing the syphilitic manifestations in the infant's liver are:—

1. Syphilis may lead to the granulomatous deposits in the organ or to interstitial fibroid changes.

2. The specific granulomata may be present either in the form of minute multiple miliary gummata or of isolated larger gummata, such as, in general, are regarded as being of tertiary nature.

3. It is not possible to regard the one form as secondary, the other as tertiary, for either may exist with cutaneous disturbances of the secondary type.

4. By analogy the interstitial fibroid change, so common in infantile syphilis, would appear, in the main, to be secondary to a degeneration and necrosis of the hepatic parenchyma, induced by the action of the toxins of the syphilitic virus upon the individual liver-cells. In part it is developed in direct association

with the development of miliary gummata.

While the changes seen in the adult and infantile syphilitic livers are etiologically and anatomically identical, they may present differences due in part to their relative duration, in part to the reactive powers of the hepatic parenchyma at different life-periods. J. G. Adami (New York Med. Jour., Apr. 22, '99).

TUBERCULOSIS.

Pathology.—In 41 cases of chronic tuberculosis of the lungs, in both the early and late stages, there was in every case extensive disease of the pleura; metastasis in the bronchial glands, liver, spleen, and kidneys; and secondary infection of the larynx, and in 39 of the cases secondary infection of the small intestine and mesenteric glands. Metastasis and secondary infection in chronic pulmonary tuberculosis play a much more important part than is usually believed, and in practice the secondary lesions do not receive the attention which they deserve. Much might be added to the comfort of the tuberculous patient if more care were bestowed upon the larynx. Means may be attempted to prevent infection of the upper air-passages by instructing the patient to expectorate as soon as the sputum rises into the larynx. The danger of secondary infection of the intestinal tract might be lessened if the dangers of swallowing sputum were more strongly emphasized. Of the 7 cases of acute miliary tuberculosis, 4 were in males and 3 in females. The primary focus in each of the 4 cases in males was in the left seminal vesicle, the dissemination occurring through the veins in the tissue about the vesicles. The chief point of interest in the cases of acute miliary tuberculosis examined was the frequency with which the primary focus was found in the left seminal vesicle. Aldred Scott Warthin (Med. News, Apr. 15, '99).

TYPHOID FEVER, NAPHTHALIN IN.

In eight unselected cases of typhoid fever treated during different years, and to which cases naphthalin had been given, there was but slight distension of the bowel in any case, and hæmorrhage occurred in none. In at least one case gaseous distension seemed to be relieved by the use of naphthalin. In all cases fractional doses of calomel were given at the onset, and cold baths, when possible, every time the temperature rose above 102.4° F. A liquid diet and use of the bed-pan were strictly enjoined. As a rule, naphthalin was begun within the first day, or from the time the patient was first seen, and was repeated one or more times throughout the course of the disease. It was given in powder or capsules, in doses from 5 to 10 grains (according to age), and repeated every three hours, if the patient was awake, day and night for two or three days. In the case of adults, doses of less than 10 grains did not appear to do much good. One should be careful to select only the purest form of the drug, as the impure product causes burning at the neck of the bladder. A good test for the purity of naphthalin is to warm a little of it in a test-tube with sulphuric acid. As little as 1-per-cent. impurity will be indicated by its imparting a pinkish tint to the sulphuric acid; the depth of the color indicates the degree of impurity. In all cases of typhoid fever and other diseases for which it has been given by others one death has been ascribed to the use of naphthalin. As a great many cases of typhoid fever need no medicine of any kind after the first few days, it seems

that the drug is especially indicated at the onset of tympanites; when paralysis of the bowel occurs from overdistension it can do no good. In all cases in which naphthalin is given in moderate-sized doses its odor can be easily detected in the urine and fæces. A. Woldert (Journ. Amer. Med. Assoc., Apr. 15, '99).

ULCER, CHRONIC LEG.

In the treatment of chronic leg-ulcer, the leg and ulcer should first be scrubbed with soap and water, then curetted. This may be rendered painless by injection of a solution of cocaine in the vicinity of the ulcer. After curetting, the ulcer is brushed with pure carbolic acid and then touched with cotton dipped in alcohol, and a bandage is applied, beginning at the toes and extending as far as the knee. When the ulcer becomes perfectly dry, adhesive stripping is made use of. The heart, lungs, and kidneys should be carefully examined to determine if congestion and œdema of the lower extremities is due to disease of these organs. Corsiglia (N. Y. Med. Jour., Mar. 25, '99).

URETERAL CATHETERIZATION AND URETERAL SURGERY.

The personal views regarding ureteral catheterization and ureteral surgery are as follow:—

1. The most important question of renal surgery, the functional activity of the remaining kidney after a nephrectomy, cannot, up to the present date, be answered by the catheterization of the ureters alone.

2. The mere demonstration of disease of the second kidney is not sufficient to contra-indicate a nephrectomy.

3. The absence of normal ingredients in a sample of urine taken from the second kidney does not prove conclusively the health, nor does it give any guarantee of the necessary functional activity, of that kidney after a nephrectomy; this absence does not of itself warrant the advisability of a nephrectomy.

4. Neither disease nor health, in an anatomical sense, of one kidney can in every case be demonstrated with certainty by means of catheterization of the ureters.

5. Sounding of the ureters does not give a positive conclusion as to the existence or the nature of an obstruction.

6. Microscopical demonstrations of blood in a sample of urine obtained by ureteral catheterization do not permit, when hæmorrhagic secretion of the bladder co-exists, of a positive conclusion as to whether the blood is derived from the kidney or from an injury to the ureter.

7. Neither catheterization of the ureters nor of the pelvis of the kidney is free from danger of infection. James Israel (Berliner klin. Woch., Nos. 1 and 2, '99).

VESICAL CALCULUS IN WOMEN.

When stones are crushed and flushed out through a dilated urethra, not only is there danger of incontinence of urine, but also it is almost impossible to be confident that none of the particles has been allowed to remain, and possibly form the nucleus of future calculi. The suprapubic operation, even though the stone be large, is not to be compared to the vaginal route when this canal is fully developed. In the suprapubic operation there is no natural drainage. The bladder must be flushed either through the abdominal incision or the urethra. In either case the urine must be retained in a bladder already inflamed, where it acts as a still further irritant, or must drain out through the abdominal wound at

the risk of urinary infiltration and of setting up inflammatory action in the site of the wound. In the vesico-vaginal route the urine flows out constantly at first, allowing no new irritation of the inflamed lining of the bladder and permitting a free and ready escape of urine, pus, mucus, and any remaining portion of the calculus. T. J. Happel (Phila. Med. Jour., Apr. 29, '99).

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

THE ANATOMY OF THE CENTRAL NERVOUS SYSTEM OF MAN AND OF VERTEBRATES IN GENERAL. By Prof. Ludwig Edinger, M.D., Frankfort-on-the-Main. Translated from the Fifth German Edition by Winfield S. Hall, Ph.D., M.D., Professor of Physiology in the Northwestern Medical School, Chicago, Assisted by Philo Leon Holland, M.D., Instructor in Clinical Neurology in the Northwestern University Medical School, Chicago, and Edward P. Carleton, B.S., Demonstrator of Histologic Neurology in the Northwestern University Medical School, Chicago. Illustrated with 258 Engravings. $6\frac{1}{2} \times 9\frac{1}{2}$ inches. Pages xi-446. Extra Cloth, $3.00. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

AN EPITOME OF THE HISTORY OF MEDICINE. By Roswell Park, A.M., M.D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Based upon a Course of Lectures Delivered in the University of Buffalo. Second Edition. Illustrated with Portraits and other Engravings. $6\frac{1}{2} \times 9\frac{1}{2}$ inches. Pages xiv-370. Extra Cloth, $2.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

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Cyclopædia of the Year's Literature.

CONVULSIONS IN CHILDREN.

Etiology.—In three children otherwise healthy Darey[1] has noticed convulsions accompanied by stupor caused by adhesions of the foreskin to the glans penis. In every case the symptoms promptly disappeared on removal of these adhesions.

C. G. Lucas[2] says that he always makes it a rule, when called to see a child with convulsions, to make a thorough examination, even inspecting the prepuce of the male, to ascertain, if pos-

[1] Med. News; Pediatrics, June 15, '98.
[2] Pediatrics, June 1, '99.

sible, the cause. The majority of cases of convulsions in children personally seen have occurred in scarlet fever.

P. F. Barbour[3] thinks that the causes of convulsions vary somewhat with the age of the child. In a child under six months of age the convulsions are nearly always due to cerebral cause or a marked reflex. In an infant between six months and two years of age the predisposition is almost always rachitic, though improper food by itself is sufficient to cause it. After two years of age the convulsions are usually either meningeal or epileptic. At the beginning of acute infectious diseases, or some days after the onset of these diseases, most children will develop convulsions if the temperature rises sufficiently and with sufficient rapidity. When a convulsion occurs three or four days after the onset of scarlet fever or diphtheria, it is generally due to nephritis or beginning uræmia.

Thomas Butler[4] thinks that convulsions in children between the ages of six months and two years are not nearly always rachitic in character. The majority of cases of convulsions that he has seen in children have been between the ages of six months and two years, and none of them were rachitic.

According to Walter F. Boggess,[5] Sachs divides convulsions into the following classes:—

1. Convulsions occurring in first few days of life are, as a rule, the result of meningeal hæmorrhage, due either to protracted labor or instrumental delivery. Personally it is thought that there are few cases where instrumentation, properly employed, ever produces permanent injury.

2. Convulsions may be due to organic disease of the brain, tumor, abscess, meningitis, or vascular lesions.

3. They may (and do generally in children under two years of age) mark the onset of acute infectious disease. The rigor of the adult is shown in the child as a convulsion.

4. Convulsions of reflex origin. Here, according to personal experience, is found the most common source of etiological explanations. There is such a myriad variety of peripheral troubles that can, and sometimes do, bring about such convulsive seizures that it is not surprising that one looks to these first in the examination: dentition, adherent prepuce (very common), burns, sores, nasal obstructions, ocular deficiencies, overloaded colons and stomachs, presence of intestinal parasites, lumbricoids, pin-worms, thread-worms, etc., stomachic and intestinal indigestions. In these indigestions, however, the cause is probably not so much reflex, as it is due to conditions of autointoxications, which factor was overlooked by the older writers. These should be classed under the following heads:—

5. Convulsions due to organic and inorganic poisons, such as ptomaines, toxins, uræmia, lead, and other metallic salts. In this class the convulsions of the infectious diseases might be placed.

6. Convulsions from exhausting diseases, and anything that lowers vitality, lessons development, interferes with proper nutrition and assimilation: rickets, scrofula, rheumatism, severe loss of blood,—the hyperæmic condition of the cortex explaining the relative frequency of convulsions in rickets.

7. Convulsions may sometimes be idiopathic or hereditary. While the convulsion is not inherited *per se*, there is an inherited susceptibility of the nerv-

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[3] Pediatrics, June 1, '99.

[4] *Ibid.*

[5] *Ibid.*

ous system to the various nervous disturbances: neurotic tendency. It is not uncommon to find frequent convulsive seizures in a child for which no assignable cause can be given except that it has been for generations a "family trait."

Convulsions may occur after traumatic injuries as an expression of shock.

Treatment. — According to Foulis,[6] cyanosis in convulsions is due to the obstruction offered to the free ingress of air into the lungs by the falling back of the tongue on to the wall of the pharynx. By simple lowering forward the base of the tongue this obstruction is done away with, air passes in freely, and the cyanosis rapidly disappears. Pulling forward the tip of the tongue when the tongue-muscles are lax is not nearly so useful.

In the treatment of infantile convulsions P. F. Barbour[7] uses chloroform, if at hand; hot water is probably the next best thing.

Louis Fischer[8] says that the history of an overloaded stomach, with a consequent high fever and ptomaine poisoning, and the absorption of this poison-causing toxæmia, will call for, first, cleansing of the stomach with lavage, using a normal saline solution—cleaning as much as possible therefore with warm salt water until the gastric contents have been removed. Meanwhile, a strong mustard foot-bath can be used to relieve the cerebral hyperæmia, and, if necessary, a leech can be applied behind each ear over the mastoid process of the temporal bone.

Leeching can also be accomplished by applying one leech to the alæ nasi.

W. F. Boggess[9] states that in an attack of convulsions the child should at once be put in a hot bath (90° to 97°) with cold to its head. A strong child may stay in the bath ten to twenty minutes, a delicate child from two to five minutes. Bowels should be at once unloaded by a large enema. If overloaded stomach is suspected, wine of ipecac or alum and molasses, etc., should be given. The child should then be placed on a cot or bed, and if convulsions continue ether or chloroform may be given tentatively to relieve symptoms until other systemic medicaments can be employed. The chief of these are the bromides and chloral-hydrate. If the child can swallow, from 2 to 5 grains of bromide of potassium or bromide of sodium with from 1 to 2 grains of chloral should be given every fifteen to thirty minutes for four to six hours to a child of one or two years. If the child cannot swallow, double this amount can be given by the rectum. While opium is of great value in controlling nervous excitement and even convulsions itself, it should be given guardedly.

It would be unwise to give opium in great congestion of the brain or in coma. It is best administered by hypodermics in form of morphine, in $^1/_{20}$- to $^1/_{60}$-grain doses. Nitrite of amyl is highly recommended in certain forms of convulsions given either by the mouth in $^1/_2$-drop doses or by inhalation. Constitutional treatment should at once be instituted in cases due to systemic conditions, rickets, etc. Musk, valerian, and asafœtida are sometimes useful adjuncts in the treatment.

H. N. Leavell[10] thinks the treatment should be directed toward relieving the constitutional condition which gives rise to the convulsion rather than to the relief of the paroxysm itself. The application of heat will do more toward

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[6] Edinburgh Med. Jour., Jan., '98.
[7] Pediatrics, June 1, '99.
[8] Can. Jour. of Med. and Surg., Jan., '99.
[9] Pediatrics, June 1, '99.
[10] *Ibid.*

relieving the condition and bring about a better circulation than will the administration of a general anæsthetic.

A combination to empty the bowel, to tone down the nervous system, and reduce the fever at the same time is calomel and phenacetin.

GASTRITIS, CHRONIC.

Diagnosis.—C. D. Aaron[11] states that chronic catarrh of the stomach cannot be diagnosed from the symptoms given by the patient. The only positive means of diagnosis is the examination of the stomach-contents after a test-breakfast. The patient should eat as his first morning meal a dry roll and drink 12 ounces of water with it. Precisely one hour thereafter, this is removed and a chemical, microscopical, and physiological examination made of it. If hydrochloric acid be present up to 40 degrees one must exclude catarrh. If absent, in 99 per cent. of cases there is a chronic catarrh; whether it be primary or secondary must be determined by an examination of the other organs of the patient.

Besides the search for free hydrochloric acid, it is of the greatest importance, diagnostically and prognostically, to show the presence of the ferments: pepsin and rennet. The residue of the test-breakfast is filtered and a reagent glass filled with 5 cubic centimetres of gastric juice and one drop of official hydrochloric acid. To this is added a thin disk of the white of a hard-boiled egg. In another reagent glass are placed 5 cubic centimetres of a 1-per-cent. solution of calcium chloride, and added to this 3 drops of gastric juice. Both reagent glasses are then placed in an incubator at 100° F. If the milk be coagulated in fifteen minutes and the disk dissolved in four to six hours, both ferments are present and atrophic catarrh of the stomach is to be excluded.

Etiology.—Etiologically the same author recognizes two forms of chronic catarrh: the primary and secondary. The primary, or true, chronic catarrh is caused by injury to the stomach directly, especially by excessive use of alcohol, tobacco, and laxatives; by insufficiently-masticated food; by irregular mode of living, and by an obstinate acute catarrh. The secondary is to be found in engorgement of the systemic circulation or the portal system, and is usually due to chronic heart and pumonary diseases, cirrhosis of the liver, nephritis, infectious diseases, and occurs as an attending phenomenon in carcinoma of the stomach.

Treatment. — W. C. Bilbro[12] remarks that each case should be especially individualized and studied and traced, as there are no two alike and no two require the same diet or medicine. There is absolutely no routine treatment successful. The successful treatment of chronic gastritis depends very much on the patient's resolution and perseverance in carrying out the instructions he receives. Mental influences are very important in the treatment. Arsenic in small doses long continued is one of the most potent drugs in any mucoid inflammation of the stomach and bowels. Nux vomica is indicated and should be given in doses of not less than 20 drops of the tincture, or from $^1/_{20}$ to $^1/_{16}$ grain of strychnine. Hydrochloric acid is almost always admissible and useful. Lavage is an important factor in the treatment. The object is to thoroughly clean the stomach, and nothing is better than papoid and water, the patient not being

[11] Harper Hosp. Bull., Apr., '99.

[12] Southern Pract., May, '99.

allowed to take nourishment for thirty minutes or an hour after the washing. Diet must be strictly regulated; all irritating or indigestible food must be strictly prohibited, and only that which is most easily digested and assimilated allowed. Milk does not agree with every person, especially sweet milk, but when it can be taken alone or diluted with one-fourth lime-water, given in small quantities and at frequent intervals in extreme cases, it will be found very valuable. Tea and coffee, as a rule, should be avoided; alcoholic stimulants should not be allowed unless in cases of habitual drinkers, then a little good whisky in Vichy water is possibly admissible. Regularity in the times of administration and in the quantity of nourishment given is most essential.

Eugene R. Morris[13] says the first thing in treatment is to carefully regulate the quantity and character of food, which should be taken regularly, and should be thoroughly masticated, starchy, fatty, saccharin, and all highly-seasoned foods and stimulants being avoided. Fresh air and exercise short of exposure and fatigue are essential. Cold sponge-baths, followed by brisk rubbing, improve the peripheral circulation and increase the tonicity of the skin. Pleasant surroundings and a change of climate and associations are beneficial where the tendency is to mental despondency. Hydrochloric acid is the most important and the most generally deficient ingredient of the gastric juice. It is not only necessary for its action as an acid, but is essential to the conversion of pepsinogen into pepsin. Ewald recommends large doses of the dilute acid—90 drops—after meals, while Leube and Reigel advise small doses, 10 to 20 drops. Probably the best results are obtained from the judicious use of hydrochloric acid in the atrophic and neurotic forms, while the bitter tonics act most effectually in other cases of chronic gastritis. Of the bitter tonics, strychnia, in some form, will prove the most satisfactory. Alcohol and sodium chloride prove good stomachics when properly used. Stomach lavage should be used more extensively. Lukewarm water may be used, but, if there is much thick mucus, a 1-per-cent.-salt solution, or 3-per-cent. solution of bicarbonate of soda is preferable. With fermentation a 3-per-cent.-boric-acid solution is to be used. Lavage should be performed if possible, in the morning, on an empty stomach, except when there is a nocturnal disturbance with flatulency, when it should be practiced three or four hours after the last meal. Lavage may be repeated once a day, unless the patient be delicate, when every second or third day will be often enough. It should be continued until the fluid returns clear. If the patient will not submit to lavage, the next best thing is to order one-half to one pint of *hot water* to be taken slowly one hour *before* meals.

S. W. Battle[14] believes that hydrastis is one of the best remedies for catarrhs of the mucous membranes and for that of the alimentary tract especially. Fluid extract of hydrastis given before meals in doses from $^1/_2$ to 1 teaspoonful has given excellent results. Peroxide of hydrogen has also been found useful. A teaspoonful of peroxide of hydrogen and hydrastis may be given a half-hour before breakfast in warm water.

GONORRHŒA.

Diagnosis. — Neisser[15] maintains that the demonstration of the gonococcus is

[13] Charlotte Med. Jour., May, '99.

[14] *Ibid.*

[15] Berliner klin. Woch., No. 10, '98.

the only reliable method of diagnosing gonorrhœa in prostitutes. Many cases of undoubted gonorrhœa would escape recognition if clinical evidences alone were relied upon. Several examinations should be made if the gonococcus is not found at first.

According to Chauncey D. Palmer,[16] gonorrhœa in the female is especially prone to attack and linger within the urethra, cervical canal, and the canals of the vulvo-vaginal glands. These are the first and most vulnerable points of attack. Secretions from these places are to be sought, for purpose of microscopical examinations. Gonorrhœa in the female almost always leads to sterility. Sometimes, however, pregnancy follows its occurrence and apparent relief or cure. Not only are such women more apt to have ectopic gestation, but they are particularly prone to attacks of puerperal fever of the metroperitoneal type.

H. Greenberg[17] says that in many cases of gonorrhœa, although the microscope fails to show gonococci, yet it is evident that they exist latent in some folds of the urethra and are liable to regain their virulence under favorable conditions. The same is true in the female; prostitutes apparently free for some time from gonorrhœa nevertheless infect the male urethra.

J. R. Eastman[18] regards the diagnosis of acute gonorrhœa in women as comparatively easy, even without the microscope. A discharge of tenacious pus is usually detected or greenish or yellowish streaks upon the linen may alone be in evidence. Erosion may be present upon the skin, upon the labia majora, or in the inguinal and gluteal folds. The labia minora, the clitoris and its prepuce, and the hymen, if present, are red and swelled. The urinary meatus is found to be congested and ectropic. The mouths of the ducts of the vulvo-vaginal glands are deeper in color, gaping, and tender. They discharge, instead of their normal glycerin-like secretion, pus-laden mucus. The surface of the vagina proper presents no great change. The urethra is the seat of predilection of gonorrhœa in women.

In gonorrhœa in the female P. Broese and H. Schiller[19] do not consider the intracellular arrangement of the cocci as pathognomonic of acute gonorrhœa, as the gonococci are quite frequently found outside the cells. The diagnosis of chronic gonorrhœa may be established upon the shape and size characteristic of the gonococci and upon their peculiar reaction to the Pick-Jacobson method of staining. In acute urethritis a differential diagnosis can be made with greater accuracy by observing the clinical course than by microscopic examination. If the urethritis be non-specific the objective and subjective manifestations disappear spontaneously and with comparative rapidity, and the adjacent portion of the genital tract will not be involved. Too much reliance must not be placed upon the absence of gonococci from the secretion from the cervix, as their presence in the secretion is most irregular. In thirty-six cases of acute gonorrhœa, in all of which gonococci were found, the cervix was, next to the urethra, the most common seat of the disease.

F. C. Valentine[20] says that—if in a case of recurrent gonorrhœa marital reinfection can be excluded by (*a*) examination of the woman; (*b*) infarction of the crypts, glands, and follicles by urethroscopy; (*c*) chronic residual posterior gon-

[16] Ohio Med. Jour., July, '98.
[17] Jour. Amer. Med. Assoc., Apr. 22, '99.
[18] *Ibid.*, Jan. 21, '99.
[19] Berliner klin. Woch., July 4, '98.
[20] Atlanta Med. and Surg. Jour., Sept., '98.

orrhœal urethritis by expression of the posterior urethra and posterior urethroscopy; (*d*) gonorrhœal prostatitis by massage of the prostate—then one must look for gonorrhœal vesiculitis.

The local manifestations of the last three conditions are grossly the same, differing only in detail.

For such an examination, it is best to place the patient on a sofa, lying on his back. The apex of the index-finger and the bed of the nail being tightly packed with soap and then thickly anointed with vaselin, the finger is gently inserted into the rectum. The other hand rests above the pubis to steady and press down the pelvic viscera. The pulp of the finger is turned toward the front of the patient, and lightly outlines the prostate, but exercises not even the slightest pressure on any part of it. If the operator desires to elicit evidence of chronic residual posterior gonorrhœa, he lets the finger glide from the prostate and exercises pressure, with increasing force, in a stroking motion forward from the lowermost margin of the prostate, endeavoring with each stroke to force the posterior urethra against the posterior aspect of the pubis.

The patient is then ordered to urinate, and, if this is the region affected, the urine will contain flakes, perhaps even filaments or shreds. Microscopy of these products of massage will reveal the character, probably gonorrhœal, of the posterior urethritis. If this results negatively, examination for prostatitis may be made in the same manner several days later. The size, shape, and hardness or softness of each lobe, as well as of the isthmus, should be ascertained; lobulation or smoothness should be elicited, depressible points located, and the prostatic juice—if any exudes from the meatus—microscopically examined. If none escapes, the first urine the patient passes after this massage of the prostate should be centrifugalized for examination.

If the prostate is found to be normal, then the patient should be examined two or three days later for seminal vesiculitis. This is done in the same manner, except that the finger is passed up the rectum farther, beyond the prostate and to its sides. In health the seminal vesicles can be barely, if at all, felt. When enlarged by disease they assume the shape of more or less tensely-filled little sausages. In engaging the finger as high up as possible on these bodies, by curving the finger downward and toward the centre with increasing force, the seminal vesicles may be stripped of their contents. These are treated in the manner as described under the examination for prostatitis.

Ahman[21] notes a case in which gonococci existed in the blood. The case was one of urethral gonorrhœa complicated with multiple arthritis, teno-synovitis, epididymitis, and nephritis, accompanied by attacks of pyrexia. During an attack of fever a syringeful of blood was taken from a vein and spread over four ascites-fluid agar plates. The results showed pure cultures of the gonococcus.

Etiology. — Cnopf[22] regards gonorrhœa in childhood as twice as common below as above the age of 6 years. Girls are much more frequently infected than boys. In only 1 per cent. of the cases noted was the disease attributable to immorality.

Joseph B. Bacon[23] believes that many cases of rectal gonorrhœa are caused by using the same syringe that has been used for the vaginal douche.

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[21] Archiv f. Dermat. u. Syph.: Treatment. Nov. 24, '98.

[22] Münchener med. Woch., Sept. 6, '98.

[23] Amer. Gynec. and Obstet. Jour., Nov., '98.

Jadassohn[24] reaches the following conclusions in regard to immunity and superinfection in chronic gonorrhœa:—

1. That there is no diminution in infectiousness in chronic gonorrhœa,—that is, it may produce an acute gonorrhœa in others; also that there is no immunization of the system through gonorrhœa of one of the organs, for a chronic urethral discharge may produce acute gonorrhœal ophthalmia in the same individual.

2. After gonorrhœa of any mucous membrane there is, as a rule, no immunity for that membrane even for a short time.

3. It is not known how a mucous membrane gradually becomes accustomed to the presence of gonococci, though for other individuals or mucous membranes they have lost no virulence. Wertheim showed that a mucous membrane affected with chronic gonorrhœa did not react to cultures taken directly from it, although it reacted to cultures taken from another patient.

4. In spite of this, it is certain clinically that some chronic gonorrhœas may become acute through superinfection with their own cocci.

5. The mucous membrane does not become so used to the presence of the cocci that the latter can live as saprophytes on it after the tissue has become normal. On the contrary, the inflammation always remains for a time after the cocci have disappeared.

6. The superinfection of a chronic gonorrhœa with gonococci from another source is an unsettled question. From the author's experiments, a chronic gonorrhœa may become acute through (*a*) the increase of its own gonococci; (*b*) inoculation with gonococci from another patient. In other cases it reacts to neither of these causes, and proves an exception to the rule of the absence of immunity.

Complications.—Harvey W. Cushing[25] has reached the following conclusions as the result of the study of two cases of diffuse gonococcic peritonitis:—

1. The gonococcus is capable of causing a specific infectious disease—namely: gonorrhœa—and at the same time other and less specific pathological conditions.

2. There is experimental proof that in certain small animals the gonococcus can set up acute alterations in the peritoneum homologous with the acute septic serositides in man, but differing from these in their tendency to rapid and spontaneous healing.

3. Hitherto there has been wanting conclusive proof that, in the peritonitides attendant upon gonorrhœa occurring in women, the gonococcus was solely or chiefly concerned. The inflammations had been carefully regarded as mixed infections and chemical inflammations.

4. The two cases above noted bring for the first time convincing evidence of the existence of a diffuse, general inflammation of the abdominal cavity caused by the gonococcus.

5. It has been recognized that extension of the gonorrhœal infection from the genital organs to the peritoneum may occur in the puerperal state; a similar sequel is shown to be possible during menstruation.

6. Such ascending forms of gonorrhœa doubtless under ordinary circumstances remain localized in the pelvis, and rarely demand surgical investigation in the acute stage.

7. A general involvement of the peri-

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[24] Correspondenz-blatt f. Schweizer Aerzte, May 1, '98.

[25] Johns Hopkins Hosp. Bull., May, '99.

toneum such as occurred in two cases observed must either be rare or unrecognized, and may depend upon some especially-receptive condition of the serosa or virulence of the organism.

8. The peritoneum is not more immune than are the pericardium or endocardium to gonococcic infection, and, being more exposed, suffers more commonly in females, although the relatively-benign course of the disease makes it a rare condition to come to the attention of the surgeon in the acute stages.

Pathology.—According to Leleneff,[26] gonococci have a most destructive action on cellular protoplasm, causing it to degenerate and liquefy, leaving only a feebly-staining, vacuolized nucleus. As similar changes have been observed both in cells containing gonococci and in those cells free from them, this destructive action must be due to some toxins produced by the gonococci. The latter chiefly invade epithelial cells and leucocytes. It was formerly supposed that gonococci only invaded columnar epithelium, and did not penetrate deeper than the submucous layer, but it is now proved that they may invade squamous epithelium and connective tissue, and even penetrate between the bundles of muscular fibres.

Treatment.—Robert W. Taylor[27] believes it proper and justifiable to employ the abortive treatment in all cases that are seen sufficiently early, but thinks success in this line will be the exception rather than the rule. The routine treatment to be adopted in the average case includes careful regulation of the diet, with the exclusion of those articles that render the urine irritating, the enforcement of a light diet, and the administration of alkalies, with hyoscyamus. In the acute stages hot embrocations of concentrated boric acid should be employed for the first few days, associated perhaps with gentle injections of small quantities of this solution. Upon the subsidence of the distressing symptoms, mild antiseptic injections, beginning with boric acid and continuing with potassium permanganate, should be used. For this a reflex catheter is to be used, if the anterior urethra alone be involved, and an ordinary velvet-eyed catheter (No. 10 or 12, French) for the posterior urethra. When acute suppuration begins to subside, the patient may use, with an ordinary penile syringe, injections of zinc, lead, alum, tannic acid, or hydrastine, as a basis. The indications for treatment, based upon the pathological findings of the stage of the decline of the inflammation, are to cause absorption of the infiltration in the submucous layer and to restore the tonicity of the vessels and the epithelial layer of the urethra. No preparation meets all these indications so well as argentic nitrate. The strength of the silver solution and the frequency of injection must be governed by the character of the secretion. As long as there is much free pus and no epithelium in the specimen, the weaker solutions should be used, but, as soon as epithelial cells begin to appear, the strength of these solutions should be gradually increased.

Kornfeld[28] recommends largin, a gray powder produced by the action of an ammoniacal solution of oxide of silver on an alcoholic solution of the dry product of decomposition of the paranucleoproteids. In a solution of 1 in 4000 it kills the gonococci.

Pezzoli[29] has reached the following

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[26] Vratch, No. 4, '98.
[27] Med. News, Dec. 10, '98.
[28] Wiener med. Presse, Aug. 14, '98.
[29] Wiener klin. Woch., No. 11, '98.

conclusions in regard to largin in gonorrhœa: 1. Largin as an antigonorrhœic is at least equivalent to the other silver compounds. 2. It surpasses the other silver-albumin compounds with regard to the power of killing the gonococci. 3. It penetrates more deeply with dead organic substances. Treatment should begin early to prevent immigration of the gonococci into the deeper parts of the mucous membrane. It may be injected in 1- to 1 $^1/_2$-per-cent. solution several times a day and retained in the urethra for from ten to thirty minutes.

Goldenburg[30] is in accord with Neisser that protargol surpasses all other agents hitherto in use for the treatment of gonorrhœa. If the disease is localized in the anterior urethra the patient should inject 3 drachms of a 1-per-cent. solution with an ordinary urethral syringe, should retain the solution for from ten to fifteen minutes, and should repeat the practice three times a day. In posterior urethritis a solution of $^1/_2$ to 1 per cent. is introduced into the deeper urethra by a Guyon instillator.

E. Finger[31] has given protargol, the new silver-proteid compound, a careful trial in forty cases of acute gonorrhœa, most of them being seen during the first week of the infection, and none of them having been previously subjected to other treatment. He agrees with Neisser that protargol is a very efficient antigonorrhœal remedy, which, if employed at an early period, exerts a prompt and favorable influence upon the course of the disease, in the majority of cases, arresting all acute manifestations, causing rapid disappearance of the secretion and gonococci, preventing extension of the process to the posterior urethra, and usually giving good results even in fully developed cases of anterior and posterior urethritis. The injections of protargol ($^1/_4$ of 1 per cent. to 1 per cent.) should be kept up for a number of weeks, after which astringents should be resorted to in order to prevent recurrence.

Paul Noguès[32] thinks that protargol injections should be made as soon as the patient with gonorrhœa presents himself. Three are given each day; the morning and afternoon injection should be retained five minutes, the evening thirty. Since it is tiresome to keep the urethra closed with the fingers for this one injection of a half-hour's duration, six, of five minutes each, are substituted. After a few days the evening injection only is necessary, and this should be continued for three or four weeks. A syringe of at least 4 drachms' capacity should be chosen. The strength of the solution is from 0.25 to 0.50 and later to 1 per cent.

Saloschin[33] has used protargol in the gonorrhœa of women and thinks that it is likely to be serviceable in this disease. In 8 cases of acute disease it was applied in 5-per-cent. solution through a speculum to the cervical canal, the vagina was treated with a 2-per-cent. solution, and a tampon moistened in the first-named solution was left in position. In the subacute variety, and especially complicated with cystitis, irrigation of the bladder with a $^1/_2$- to 1-per-cent. solution gave variable results in ambulant patients.

Colombini[34] finds protargol valuable in gonorrhœa. He always keeps a 10-per-cent. solution, which is prepared by pouring 5 cubic centimetres of neutral glycerin into a small mortar, and adding to it 10 grammes of protargol, stirring

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[30] New York Med. Jour., Jan. 22, '98.

[31] Times and Register, June 11, '98.

[32] Annales des Mal. des Organes Génito-Urin., No. 6, '98.

[33] Klinisch-therap. Woch., No. 25, '98.

[34] Atti della R. Accademia dei Fisiocritici, serie 4, vol. x, '98.

up the mixture with a glass rod till a thoroughly homogeneous moist paste is produced. This is next diluted with 95 cubic centimetres of cold sterilized water, and shaken up till a perfect solution is produced; this solution is kept in a colored bottle in a dark place. As required, a 0.25-per-cent. solution is made by mixing 2 $^1/_2$ cubic centimetres of the standardized solution with 97 $^1/_2$ cubic centimetres of sterilized water; a 0.50-per-cent. solution by mixing 5 cubic centimetres with 95 cubic centimetres of water; a 1-per-cent. by mixing 10 cubic centimetres, and a 2-per-cent. by mixing 20 cubic centimetres of the standardized solution with 90 and 80 cubic centimetres, respectively, of sterilized water. These solutions are used as urethral injections according to the stage of the disease. In the acute stage the 0.25-per-cent. solution is used. The patient first passes water, and then the glans and prepuce are washed with some antiseptic solution and a syringeful of protargol is first injected in such a way that sufficient room is left for the outflow of the injection; then the syringe (which is made to hold 6 cubic centimetres) is refilled to two-thirds of its capacity and the solution is injected very slowly, the meatus being completely blocked, so that it may not run out again. The syringe is carefully removed, the patient being directed to keep the meatus closed with his fingers for fifteen minutes, and not to pass water for an hour. As the inflammation subsides, the strength is gradually increased up to 2 per cent. The solution is injected at the temperature of the air. The first day one injection is given, the next one in the morning, and another in the evening; the third and following days one in the middle of the day as well. The injections are continued for twenty days after the cessation of the discharge, the daily number being gradually diminished to one.

Behrend[35] notes twelve instances of gonorrhœa in males (first attack) in whom, after one or two days the gonococci disappeared under the use of $^1/_2$- to 1-per-cent. solutions of protargol. This remedy had no influence upon the clinical symptoms, the discharge continuing. Better results were obtained by the use of other astringents, as the alum injection, although the latter does not destroy the gonococci. The disadvantage of the protargol is that it acts only on the gonococci which it can reach, for it does not penetrate into the tissues.

Gravagna[36] has tested various new drugs—alumnol, protargol, argentamin, and argonin—in a number of cases of gonorrhœa. Microscopical examination showed the presence of gonococci long after the onset of treatment. The disease is not cut short by these drugs; although there are no advantages in these drugs over the older ones, they have no disadvantages.

Chassaignac[37] has treated 500 cases of gonorrhœa in various stages of the disease with chlorinated soda. All cases improved except those which were too acute to syringe, and some cases which were very chronic. Three solutions of different strengths—1 in 48, 1 in 32, and 1 in 24—were used; the weak solution for acute cases, the strong for old cases, the medium for most cases. The solution must be pure and comparatively fresh. It is used three or four times a day at first, afterward twice a day, and injected with a syringe holding three-eighths of an ounce, the injection being retained for two or three minutes. Treat-

[35] Klinisch-therap. Woch., No. 12, '98.

[36] Rig. Med., July 28, '98.

[37] Amer. Jour. Cut. and Genito-Urin. Dis., Jan., '98.

ment is continued till the "morning drop" disappears and the threads have ceased to appear in the urine after moderate indulgence in alcohol.

Chauncey D. Palmer[38] regards copaiba as still the most reliable remedy for internal medication. For specific inflammations of the urinary, not genital, tract it is indicated. When vaginal or intra-uterine it can do no good. The mercuric bichloride is one of the most safe and efficient parasiticides for this disease. Urethral and vesical injections should not exceed 1 to 20,000 to 1 to 30,000 in strength, but the vagina and uterus will easily bear from 1 to 1000 to 1 to 2000. A frequent practice personally has been to thoroughly scrub the vagina and vulva with German green soap, irrigate it thoroughly with hot water, and forcibly mop the whole vaginal and vulvar tract with the sublimate lotion 1 to 2000 strong. If the disease is intra-uterine, the patient should be anæsthetized, and the uterine cavity dilated, curetted, and washed out with a lotion of the same strength. After the cavity has been dried with sublimate gauze, about 20 to 30 drops of pure carbolic acid may be injected with an appropriate syringe.

J. F. W. Ross[39] believes that the curette should not be used in the presence of acute gonorrhœa, as it is one of the surest ways of causing extension of the disease to the tubes and ovaries.

In gonorrhœal epididymitis Letz[40] uses a 10-per-cent. guaiacol ointment made with vaselin or a 5-per-cent. ointment if the skin is tender. The scrotum is first washed with soap and afterward with ether. The ointment is applied during the first or acute stage of the disease, when there is pain and swelling of the testicle and pyrexia. These symptoms disappear in three to five days. In chronic epididymitis the guaiacol is best replaced by Zeissl's ointment of a 1- to 2-per-cent. extract of belladonna, with equal parts of simple ointment and unguentum diachyli. Fifteen grains of salol should be given thrice daily as an adjunct to the treatment. Fifty cases of gonorrhœal epididymitis have been successfully treated in this way.

C. S. Murrell[41] advises the prolonged use of hot-water irrigations in both acute and chronic gonorrhœa. A soft catheter is passed to within one inch of the prostatic urethra. It is then connected with a "gravity apparatus," in which the water is gradually heated up to the tolerance-point. The stream flows through the catheter and then back between catheter and mucous membrane, thus flushing out the anterior urethra. Several quarts of warm water are thus passed, some patients having a tolerance-point as high as 180° to 190° F.

Aboutkoff[42] found in 5 cases of gonorrhœa in which the temperature rose to 104° F. and upward, owing to complications, that the urethritis was quickly checked, due to the sensitiveness of gonococci to changes of temperature.

Duquain[43] finds the following injection useful in acute gonorrhœa:—

℞ Methyl-salicylate, artificial, 15 minims.
Bism. subnit., or, better, salicylate, 2 1/2 drachms.
Liquid vaselin, 3 1/2 ounces.

M. Sig.: Shake well before each injection.

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[38] Ohio Med. Jour., July, '98.

[39] Amer. Jour. Obst.: Hot Springs Med. Jour., July, '98.

[40] Wiener klin. Rundschau. Nos. 4, 5, and 6, '98.

[41] Mass. Med. Jour., vol. xviii, 289-292, '98.

[42] Vratch, No. 8, '98.

[43] Cent. f. d. ges. Ther., p. 443, '98.

J. B. Bacon[44] treats gonorrhœa of the rectum by keeping the patient at rest and using a double tube just within the sphincters for irrigation purposes, gradually inserting the tube with an outlet for the flow of water. The bowel should be irrigated several times daily with hot water or with a mild antiseptic solution.

HAY FEVER.

Treatment.—A. Rixa[45] thinks that in the prevention of hay fever about two weeks before the onset of the disease one should commence to irrigate or sterilize the nasal cavity and the post-nasal spaces with a harmless antiseptic solution, using the douche and the atomizer. Hydrozone is the most innocuous and most powerful germicide. It is a 30-volume aqueous solution of peroxide of hydrogen. At the beginning it may be used for irrigation diluted in the proportion of 1 ounce of hydrozone to 12 ounces of sterilized water. Nearing the period of the expected onset of the disease the dose is increased to 2 or 3 ounces of hydrozone to 12 ounces of sterilized water, the douche, either tepid or cold, being used four times a day,—morning, noon, evening, and at bed-time,—while, during the intervals, the atomizer, with a solution of hydrozone and pure glycerin, or sterilized water, 1 to 3, is used. In most obstinate cases when there is still some irritation in the nasal cavity the following prescription may be used also:—

℞ Acid. boric., 20 grains.
Menthol., 4 grains.
Glycothymolin., 2 drachms.
Sol. eucaine B, 4 p. cent., 2 ounces.

M. Sig.: Use in atomizer. As a rule, this treatment is sufficient to avert the disease and keep the patient comfortable.

The mucous membrane may be rendered less sensitive, or non-sensitive, to "pollen" or other irritants, and it may be given greater resisting power and made immune against the exciting causes by a method that is termed by Edward W. Wright[46] "massage treatment." This treatment came about in the following manner:—

In reviewing the chemistry of hypoxanthin the statement was found that it was present in the "pollen of flowers and grasses." By blowing powder of hypoxanthin into the noses of patients who had had hay fever it was attempted to excite the symptoms of that condition; but it could only be said to be an irritant. Then the powder was used to render the mucous membrane accustomed to it. Knowing the good effects of tannic acid in eyelid affections, and the beneficial results of iodine in the pharynx, it was decided to use one or both of these in the nose, applying it with gentle friction over the whole mucous membrane of the nose, but more especially to the usual sensitive areas. When there was a thickened condition of mucous membrane and an hypertrophy of parts beneath, iodine, potassium iodide, and glycerin were used. When the mucous membrane was thin, sensitive, with no appearance of hypertrophy, tannic acid, carbolic acid, and glycerin were applied. These, in weak solutions, were thoroughly applied with gentle friction to all the nooks, crannies, and surfaces of the interior of the nose, but more particularly over the usual sensitive areas, that part of the septum opposite the middle turbinated, and that part of the soft palate just behind the septum. Sometimes it was necessary to use a very weak solution of cocaine in fine spray before a thorough massage

[44] Amer. Gynec. and Obst. Jour., Nov., '98.
[45] Jour. Amer. Med. Assoc., Jan. 21, '99.
[46] New York Med. Jour., May 6, '99.

could be accomplished. The object of these applications and the friction by massage is to harden the mucous membrane, giving it greater resisting power, and thus immunity against "pollen" and other excitants.

For the treatment of an attack of hay fever two new drugs promise well: orthoform and suprarenal capsule. Orthoform will allay the supersensitiveness, the hyperæsthesia, and the paroxysmal sneezing. Its effects are in duration many times longer than cocaine, and it has no toxic action. When it is wished to give the patient free breathing through the nose and lessen the serious discharge, the use of a solution of suprarenal capsule will accomplish the desired result without the disadvantages of cocaine.

B. Douglas[47] advises treating the attack by irrigation of the nasal passages with a saline solution at a temperature of 106° to 114° F., after previous spraying with a 1-per-cent. solution of cocaine; this to be followed by applying, for four minutes, to sensitive parts pledgets of cotton moistened with a 4-per-cent. solution of cocaine. After this, phenol-camphor or a 10-grain solution of silver nitrate may be used with advantage. After the acute symptoms subside a spray of benzoinal containing a little menthol is to be used. The extract of suprarenal gland is almost a specific in hay fever. It may be used in the form of a spray of the aqueous solution, or given internally in the form of compressed tablets. The tablets should be given at first every two hours until some prostration is noticed and then the intervals should be lengthened; but two doses daily should be taken throughout the hay-fever season. The vasomotor disturbances should be treated by daily cold sponging or spinal douches and the internal administration of small doses of quinine and digitalis.

MIGRAINE.

Etiology. — Frieser[48] maintains that migraine is rarely a disease by itself, but is a symptom accompanying some other affection. Sometimes there is an hereditary predisposition. Migraine often complicates anæmia and various diseases of the female generative organs. It may also be due to ear or nasal disease, but one of the most frequent causes lies in dyspepsia, due to chronic gastric catarrh, dilatation of the stomach, etc. Overwork in school-children is an important etiological factor.

C. A. Herter[49] thinks the typical migraine paroxysm seems to be almost always associated with nutritive disturbances, which should be considered as part of the migraine paroxysm. There are many features in a typical attack of migraine indicating gastro-intestinal disturbance. The ingestion of food often causes nausea and vomiting. Usually after a severe migraine paroxysm the urine is increased in amount on the second and third days after headache. The uric acid is increased and the extractives also. In seven different patients the contents of the stomach were examined in the paroxysm. In these cases there had been evidences of complete arrest of gastric digestion. Not only the secretory, but the motor activity of the stomach was diminished or temporarily arrested. Although it may be safely assumed that there is a toxæmia present in severe attacks of migraine, we must admit our utter ignorance of this toxæmia.

William Hirsch[50] says that the chief objection to the toxæmia theory of migraine is the occurrence of unilateral

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[47] Phila. Med. Jour., Apr. 1, '99.
[48] Münchener med. Woch., Aug. 30, '98.
[49] Public Health Jour., Nov., '98.
[50] *Ibid.*

symptoms, and the fact that one side of the body alone is affected time and again.

L. Stieglitz[51] does not accept the view that the toxins giving rise to migraine come from the alimentary canal. The periodical cases of migraine often vomit repeatedly, and yet the attack is unrelieved. There seems to be a very close connection between epilepsy and migraine.

Joseph Colins[52] thinks there is a very close genetic connection between migraine and epilepsy.

Complications.—M. Brasch[53] notes the case of a man who, in the course of two years, had had four attacks of migraine. In the last attack there occurred excretion of tears from the left eye. Then headache in the left frontal region, then swelling of the eyelids, and suddenly, while straining at stool, a hæmorrhage into the lids, with loss of vision of the left eye. Pain disappeared as soon as the hæmorrhage had taken place. In the course of eight days almost complete recovery had ensued. The question is discussed whether the migraine of itself is sufficient to determine the effusion of blood, and an investigation of the literature shows that, although infrequent, migraine with hæmorrhage has occurred. In a case, such as this, the prognosis is always favorable as far as the immediate attack is concerned, but the liability to relapse is considerable.

Treatment.—According to C. A. Herter,[54] the first step in the treatment of a migraine seizure should be the washing out of the stomach with water at a temperature of not less than 105° F. The effect of lavage is better where the stomach contains food, but it should be employed in any case. Where the lavage is inconvenient the patient should drink hot water. After the stomach-wash the patient should be given a rapidly-acting cathartic, one of the best being a teaspoonful or dessertspoonful of Carlsbad salts. It is desirable to avoid severe purgation. The cathartic should be aided by a hot soap-and-water enema, and this should be given though there has been a recent stool. If this active treatment is begun within the first hour of the headache, it not only markedly relieves the pain, but often cuts short the paroxysm. Phenacetin in doses of 10 grains, repeated if necessary, is generally useful, but ammonol seems to be the best drug. Black coffee, without sugar, is often very efficacious, as is, also, citrate of caffeine. Where the face is regularly much flushed, ergot sometimes acts well.

Mary Putnam Jacobi[55] tried washing out the stomach on a very severe case of migraine, and she was able in that way to arrest an attack which was unusually severe. In this case the stomach was entirely empty at the time of washing.

In the attack of migraine Frieser[56] thinks washing out of the stomach is of value, and, if this cannot be done, large quantities of warm water should be taken. Menthol is the best remedy. Constipation and dyspeptic symptoms must be carefully treated by diet and otherwise. Benzacetin and trephinin, given in doses of $^1/_2$ grain, are useful. Valerianate of menthol may be used in the intervals.

Methylene-blue has been successfully used in headaches by Tomson.[57] The remedy is well worth a trial in all nervous headaches, neuralgias, migraine, and similar conditions. Merck's methylene-blue is the only one that should be used,

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[51] Public Health Jour., Nov., '98.
[52] *Ibid.*
[53] Berliner klin. Woch., Dec. 26, '98.
[54] Public Health Jour., Nov., '98.
[55] *Ibid.*
[56] Münchener med. Woch., Aug. 30, '98.
[57] Vratch, '98.

other brands containing chloride of zinc and arsenic. This is combined with nutmeg, each $1^1/_2$ grains in gelatin capsules, one capsule being given two or three times a day.

Eshner[58] has had excellent results in migraine from the administration of the fluid extracts of gelsemium and cannabis Indica. The dose is from 3 to 5 drops of each, given three times daily, until physiological action becomes apparent.

H. Handford[59] believes that migraine is due to vasomotor spasm; therefore treatment should be directed to the relief of this spasm, and consist in application of warmth to the extremities and the ingestion of warm drinks; antipyrine, phenacetin, and the nitrites are also often useful.

Ewer[60] describes an apparatus which, by slight, very rapid, and equal vibrations of the body, is able to cure within two or three minutes all nervous pain, especially migraine. The apparatus is operated by electricity, and consists of a small motor whose core revolves with great rapidity. This core at one end is bent a little from its centre, so that with each revolution it strikes a rubber knob, giving to it a little thrust. If this knob is held against the surface of the body the rapid revolution of the motor transmits to it a trembling, with the relief of pain.

M. Benedikt[61] says that the electrical treatment of migraine is the best. Sodium iodide has a favorable action.

PLEURISY.

Symptoms.—Maurice Lemoine[62] states that very often pleurisy with a large amount of effusion may be completely latent in an old person. Four varieties may be described: The first occurs in subjects who are apparently healthy. There may be merely some malaise, headache and sleeplessness. Pyrexia may be completely absent or only very slight. There is very little, if any, dyspnœa, and there may be merely slight pain in one side of the chest. The existence of effusion becomes evident by examination.

The second form occurs in persons of somewhat impaired health. Respiration is accompanied by some difficulty, and there may be nocturnal dyspnœa and breathlessness on exertion. Perimalleolar œdema is sometimes noticed. A sudden attack of cardiac failure follows these symptoms.

The third form is more marked; there is dilatation, anasarca, Cheyne-Stokes respiration, and intense dyspnœa. Pleural effusion is a late symptom.

In the fourth variety the cause of pleurisy is pulmonary infarction, and the symptoms in this condition may be observed previous to the appearance of the pleurisy, which only occurs toward the end of the second week.

Tuberculosis and pneumonic pleurisy may also be found among elderly patients, but do not differ in their symptomatology from cases occurring earlier in life. Sudden death in the course of a pleurisy is very rare among old people.

G. Zuelzer[63] states that, according to Bouveret, the general symptoms of diaphragmatic pleurisy are like those of pleurisy elsewhere, but physical signs are absent. The pain is more severe and more widely distributed than in ordinary pleurisy. Palpation discovers tender points around the thorax at the level of the insertion of the diaphragm; at the base of the neck, where the phrenic nerve passes along the scalene muscles;

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[58] Med. News, Jan., '98.
[59] Edinburgh Med. Jour., Sept., '98.
[60] Berlin Letter, Med. News, Jan., '98.
[61] Wiener Klinik, Mar., '98.
[62] Jour. de Méd., July 25, '98.
[63] Münchener med. Woch., Nov. 22, '98.

and at a spot which represents the point of intersection of two lines, one running vertically, parallel with the outer sternal border, the other, a horizontal one, being an imaginary prolonged tenth rib. Other peculiarities of this variety of pleurisy are: 1. The pain is abnormally violent and diffuse. 2. Movement is almost suppressed in the hypochondrium and base of the thorax on the affected side. 3. Physical signs may be absent, or consist in a limited tympanitic resonance at the extreme base, and minus breath-sounds. 4. Occasionally there is pain on swallowing as the food passes the diaphragm. 5. Hiccough may be present. These effusions, when near the centre of the diaphragm, are out of reach of the exploring syringe.

Diagnosis.—Lop and Monteux[64] from a study of various reports of staphylococcic pleurisy, find that the condition is of extremely slow, irregular, and prolonged cause. The fluid is often serous in the early stages, subsequently becoming purulent; but it does not contain flakes of fibrin. Suppuration is usually free. The staphylococcus is not very specific and only tends to develop in those who are already in bad health or who are convalescing from some serious illness. The diagnosis from tuberculosis is often difficult.

Etiology.—Lauder Brunton[65] remarks that one of the first causes of pleurisy may be injury to the side, a blow, etc. In many other cases a chill gives rise to the pleurisy, and in some of those cases it is impossible to trace the presence of any other factor.

Leaving out cancer of the pleura, le Damany[66] groups all sero-fibrinous pleurisies in three classes:—

1. Tuberculous pleurisy of the type known as acute, primary, or *à frigore*.

2. Pleurisy from miliary tubercles of the pleura in the course of a general tuberculosis.

3. Pleurisies secondary to lesions of the lung; (*a*) by subpleural infarcts; (*b*) by subpleural hepatization; (*c*) by pulmonary congestions.

Pyogenic microbes, if they set up any pleurisy, can only cause a purulent pleurisy. Sero-fibrinous pleurisies and purulent pleurisies are the results of processes essentially different, and not merely two distinct degrees of the same process. All sero-fibrinous pleurisies being regarded as tubercular, it is preferable to leave the effusion until the pleural tuberculosis becomes healed. As tubercle develops less easily in a collapsed lung than in a normal lung, the effusion is protective to the lung. Paracentesis is harmful in sero-fibrinous pleurisies, except to aid absorption which has already commenced, in which case it is harmless, but unnecessary.

Achard[67] notes two cases of pleuritis occurring in the course of typhoid fever in which the typhoid bacillus was obtained in pure culture from the aspirated fluid. The fluid was serous in one case, and sero-sanguinolent, becoming purulent later, in the other.

Pathology.—W. S. Lazarus-Barlow[68] has found that there are at least three distinct forms of pleurisy: (1) a form in which "fibrinoid degeneration" occurs along with marked filtration of the pleura by cells; (2) a form in which there is a general increase of the connective tissue of the pleura without marked filtration by cells and without "fibrinoid degenera-

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[64] Revue de Méd., Apr. 10, '98.

[65] Edinburgh Med. Jour.; Amer. Medico-Surg. Jour., June 25, '98.

[66] La Presse Méd., Nov. 2, '98.

[67] La Semaine Méd., Oct. 19, '98.

[68] Brit. Med. Jour., Sept. 3, '98.

tion" of the connective-tissue fibrils; (3) a form in which the whole thickness of the inflamed pleura consists of highly-vascular and very young cicatricial tissue. Endothelium may be found covering the "false membrane," and the connective tissue of the pleura itself may undergo the change termed "fibrinoid degeneration"; but these changes are not commonly seen. In the greater number of human cases examined all trace of the normal endothelium was lost.

Treatment.—J. M. Patton[69] regards the treatment of fibrinous pleurisy as largely symptomatic. The most efficient remedy for the pain is $^1/_4$ grain of morphine hypodermically. In diaphragmatic pleurisy morphine is generally a necessity. Next to morphine the quickest relief is afforded by a good-sized fly-blister. When these means are objectionable, especially in children, the hot poultice, mustard plaster, or hot applications are very useful. Blisters, while relieving pain, seem, also, to have some modifying action on the intensity of the inflammatory process, and their application is, therefore, good treatment in cases of active inflammation. A single blister 4 x 5 or 5 x 6 is better than several, or a succession of, small ones. Leeches are better than cupping for the relief of pain. Fixing the side by means of long strips of adhesive plaster passing over the median line and drawn tightly gives much relief. The fever and cough should be treated symptomatically. The bowels should be managed by a little calomel followed by a saline. Iron, quinine, and strychnine are very useful in overcoming the depression which follows the attack.

Jegorof[70] says that salol in doses of 12 to 42 grammes is of great service in cases of pleurisy, increasing the diuresis and promoting the absorption of effusion without producing any of the ill effects previously observed from alkaline salicylates.

In eleven cases of serous pleurisy Prosorowski[71] was enabled to cause the disappearance of the exudations by painting the skin with guaiacol. No unpleasant objective by-effects were noted. As a rule, from five to seven applications sufficed to bring about the disappearance of the exudation. In a few cases a fall of 0.36° to 3.6° F. in temperature was observed after the application of the guaiacol, but a rise to the original or even a higher temperature soon followed.

Talamon[72] thinks that a serous pleurisy which has not been tapped is recovered from better and more completely than one which is tapped. Even at the end of two months or more after paracentesis, sometimes dullness, diminished vocal resonance, and feeble respiration persist. Most of the cases of serous pleurisy are tubercular, and it is thought that paracentesis withdraws from the organism a fluid which is its principal defence against the invasion of the bacillus. It favors the absorption of the residue of this liquid, and together with this the germs which it contains. In this way it hastens the tuberculization of the lung.

RHEUMATISM.

Etiology. — Delcourt[73] finds chronic, deforming, articular rheumatism uncommon during childhood. There are two stages of the affection: one, chronic arthritis with localization of the disease process to the synovial capsule and the periarticular tissues; the second results from the first, by the extension of the

[69] Clinical Review, May, '99.

[70] Nouv. Rem., xiv, 238; after Vratch.

[71] Deutsche med.-Zeit., xix, p. 2657.

[72] La Médecine Moderne, Mar. 9, '98.

[73] Revue Men. des Mal. de l'Enfance, July, '98.

process to the cartilages and the bone. Heredity plays some rôle in the causation of the disease, its exciting factor being, however, rather defective nutrition. There exists a certain antagonism between scrofulous tuberculosis and this rheumatic affection; that is, they rarely occur together.

Frederick E. Batten[74] examined 115 choreic children in order to determine what percentage subsequently developed rheumatism. Of these, 11.3 per cent. of the children without previous rheumatism developed rheumatism within 3 years. After 5 years this was increased to 20 per cent.

Robert B. Preble[75] thinks that there is some relation between chorea and rheumatism, rheumatism being much more frequent in children suffering from chorea than in children in general. Rheumatism acts as an excitant to chorea by the selective action of toxins upon the motor cells of the cortex, functional affections being caused, but no structural changes.

Treatment.—H. G. Langwill[76] suggests the following as a summary of the chief points in reference to the prophylaxis of rheumatic hyperpyrexia: 1. Cases in which the pyrexia shows a tendency to rise instead of decline under full doses of the salicyl compounds, and in which no intercurrent condition can be detected which might account for the increasing pyrexia, should be treated at once by cold applications without waiting for the onset of nervous symptoms or for other prodromata of rheumatic hyperpyrexia. 2. When delirium appears in a case which exhibits pyrexia, and no intercurrent visceral complication can be made out which might account for its presence, the immediate employment of cold is called for. 3. Should delirium appear while the temperature remains normal, a mild form of cold application—*e.g.*, an ice-cap to the head—should be employed, and on the appearance of pyrexia more vigorous methods ought to be adapted without waiting for any extreme degree of pyrexia (*e.g.*, 105°) to be reached. 4. Cases in which the hyperpyrexia is, as it were, accidentally discovered to be present offer, of course, no field whatever for prophylaxis, but treatment by cold should be commenced at once without waiting for the appearance of nervous symptoms or attempting to reduce the temperature by means of any antipyretic drugs.

In articular rheumatism Wilms[77] uses a simple apparatus personally designed for the continuous application of heat to joints. Flexible metal tubes are coiled several times around the joint, a thin layer of plaster of Paris being first applied to protect the skin. A constant stream of water, at 175° to 195° F., is maintained through the coil by syphon action. The water should be used as hot as it can be borne.

B. O. Kinnear[78] remarks that in chronic articular rheumatism the regulation of the circulation of the blood throughout the body by means of cold applied over the spinal nerve-centres will, without the aid of internal medication, restore the patient to health or ameliorate his condition. The reason that cold over the spine will accomplish this result is because when properly and intelligently applied it will always dilate the arterioles and capillaries throughout the whole organism and increase the external heat of the body very perceptibly. This signifies more rapid metabolic changes, increased general nutrition, and

[74] Lancet, Nov. 5, '98.
[75] Jour. Amer. Med. Assoc., Mar. 11, '99.
[76] Scottish Med. and Surg. Jour., Feb., '99.
[77] Deutsche med. Woch., No. 23, '98.
[78] Med. News, Aug. 20, '98.

restoration to normal function in the tissues. The ice-bags which are to be used should never be wider than four and a half inches for the adult, otherwise the body will be chilled. The length of the bag depends on the age and size of the patient. By the intelligent use of such applications it is possible rapidly to subdue inflammatory forms of skin disease, chronic forms of inflammation in the mucous membranes, such as chronic bronchitis or chronic diarrhœa, and also "irritable ulcer," as well as cold and sluggish ulcerations. Some eight thousand applications of cold over the spine have been personally made, with observation of the results. In all these forms of inflammation, as well as in chronic articular rheumatism, the spinal ice-bag is exceedingly grateful to the feelings of the patient. After a few weeks, or even a few days, he perceives a renewal of strength, particularly if he was originally strong and vigorous. In patients of naturally feeble constitution the results are longer in appearing.

One of the worst cases of chronic articular rheumatism personally ever seen was cured by the application of the spinal ice-bag alone, without the aid of drugs, after almost every known remedy had been tried. Nearly every joint in the patient's body was affected, and had been so for eighteen months previous to the treatment. The pain was constant, night and day, and he had become much emaciated.

A twenty-two-inch spinal ice-bag was applied from the fourth cervical to the third lumbar vertebra, for one hour twice a day, with immediate relief to pain, while the bag remained on. In ten days pain had ceased in all his joints, and he could rise from the sitting position at once, easily and comfortably. His progress toward recovery was steady and rapid, and he regained in a few months about forty pounds in weight. In six months' time the cure was complete, and from that day to the present (some twelve years) he has had no relapse.

The use of the spinal ice-bag is not advised in acute articular rheumatism, on account of the great shock to the system in the sudden checking of such widespread disorder, but, after the disease has run its course, the condition of the patient may be improved much more rapidly and the strength more speedily regained by the use of cold over the spinal nerve-centres than is possible without such treatment. In lumbago the dorso-lumbar spinal ice-bag (ten inches long, four and one-fourth inches wide) will readily break an acute attack, with almost immediate comfort to the patient. At the same time a fairly-strong cholagogue should be administered. In chronic lumbago the ice-bag will effect a cure in many cases, and in others it will check the severity of the disease, and give much ease to the patient. In chronic articular rheumatism the spinal ice-bag may be used from one-half hour to three hours per day in divided application, according to the strength and general condition of the patient. If the appetite be good and the patient fairly strong, then the ice-bag, at first wrapped in one thickness of flannel, may be used morning, noon, and night for an hour. The bowels must be kept moving steadily and naturally. In an acute attack of lumbago the whole intestinal tract should be evacuated by a cholagogic pill and a large enema, the dorso-lumbar ice-bag applied against the skin, and continuously, from the seventh or eighth dorsal to the third lumbar vertebra, until the patient is able to rise and be about with some degree of ease. The bag is then reapplied every four hours, for one-half hour at a time,

until entire relief has been established. A mild tonic with some preparation of iron will then be sufficient to restore the patient to his usual health.

Acute Rheumatism. — TREATMENT.— H. B. Favill[79] applies the following treatment to a typical case of acute rheumatism:—

1. The bowels are to be emptied thoroughly, preferably with a sharp mercurial. 2. Salicylate of soda is administered to its full analgesic effect; if it is not well borne by the stomach, give its equivalent,—oil of wintergreen. If it is contra-indicated by cerebral conditions, antipyrine may be used, or the coal-tar preparation best adapted. If these are contra-indicated, by condition of the heart or nervous system, opium is of value. At all events, the pain is to be controlled. 3. As the pain is controlled by such means, aided by local measures, particularly heat and immobilization, the salicylate element should be gradually removed and the system saturated with alkali, continued until the active process seems controlled. 4. Finally, while giving alkali, or after it, iron should be administered, providing the conditions of bowels and liver permit. 5. At all times, and incessantly, one should promote intestinal hygiene by mercurial, cholagogue, or saline, with the conviction that, upon the processes here represented, the disease, its duration, and complications largely depend. Impatience with the tediousness of the course, leading to ill-considered and premature activity, must be avoided.

In articular rheumatism Bourget[80] recommends the following ointment:—

℞ Salicylic acid, 45 grains.
Oil of turpentine, $^3/_4$ drachm.
Adeps lanæ, 5 drachms.
Lard, 5 drachms.

This is spread over the parts, and a dressing of absorbent cotton applied and covered with any impervious material.

S. Sterling[81] employs an ointment of salicylic acid in rheumatic affections in the cases in which the salicylates cannot be borne by the stomach. The ointment personally employed is as follows:—

℞ Salicylic acid,
Oil of turpentine,
Lanolin, of each, $^1/_2$ ounce.
Lard, 2 ounces.

This is applied to the affected joint and thickly covered with non-absorbent cotton (wadding), which is covered with gutta-percha tissue and kept in place by a flannel bandage. After the superficial epidermis is destroyed the turpentine is left out from the above formula.

Arendt[82] recommends ichthyol applications, according to one of the following formulas, in articular rheumatism:—

1. ℞ Ichthyol, 2 $^1/_2$ drachms.
Distilled water, 2 $^1/_2$ drachms.
Adeps lanæ, 1 ounce.

2. ℞ Ichthyol, 2 $^1/_2$ drachms.
Extract of belladonna, 15 grains.
Adeps lanæ, 5 drachms.

3. ℞ Ichthyol, 2 $^1/_2$ drachms.
Diluted alcohol, 2 $^1/_2$ drachms.
Distilled water, 1 $^1/_4$ ounces.

URTICARIA.

Symptoms.—Stelwagon[83] has seen only three cases of urticaria pigmentosa in an experience of twenty years. The beginning lesions were, for the most part, at

[79] Jour. Amer. Med. Assoc., May 13, '99.
[80] Jour. des Prat., No. 29, '98.
[81] Münchener med. Woch., vol. xlv, p. 303.
[82] Jour. des Prat., No. 29, '98.
[83] Jour. of Cut. and Genito-Urin. Dis., Dec., '98.

least, wholly urticarial in their earliest stages; many behaved as such and disappeared, in others there seemed to be some mild hæmorrhagic deposit with a tendency to more or less permanent cell-infiltration. The eruption was most abundant on the neck and trunk. The disease began in very early life. The disease is, in the beginning, essentially an urticaria, and the subsequent peculiarities are due to some secondary changes in the lesions.

W. Freudenthal[84] notes a case of that rare disease, urticaria of the larynx. The man, who was 59 years old, suffered from attacks of urticaria of the skin. The lingual tonsil was somewhat enlarged, and there was a diffuse redness of the laryngeal epiglottis, with a slightly œdematous elevation on its right side. Later herpetiform prominences were occasionally noticed. This condition of the larynx was attended with an itching sensation and lasted only during the attacks of cutaneous urticaria.

J. M. Taylor[85] has seen pharyngeal urticaria in a young lady, in whom sudden severe dyspnœa occurred while attempting to sing. In about ten minutes the eruption of urticarial wheals were noticed on the skin. A spray of antipyrine and cocaine to the throat gave immediate relief.

Etiology. — Créquy[86] thinks that the mind is influential in producing urticaria. He has seen one patient who has urticaria every time he sees strawberries, and a friend of his gets an attack of urticaria every time he hears the word.

Treatment. — Bulkley[87] gives the following prescription for urticaria:—

℞ Chloralis,
Camphoræ, of each, 1 drachm.
Pulv. amyli, 1 to 2 ounces.

M. Sig.: Keep tightly corked in a wide-mouthed bottle. Rub in with the hand.

Gaucher[88] prescribes the following as an application in urticaria:—

℞ Alcohol,
Chloroform,
Sulphuric ether, of each, 3 parts.
Menthol, 1 part.

M. Sig.: To be applied in the form of a spray.

B. Wolff[89] relieves the most acute symptoms of urticaria within a few hours, and effects a cure within twenty-four hours by giving sodium phosphate in doses of 4 or 5 grammes every three hours, in concentrated solution.

The following solution may be used topically:—

℞ Prepared calamin, 45 grains.
Zinc oxide, 45 grains.
Carbolic acid, 15 grains.
Lime-water, 1 ounce.
Rose-water, 2 ounces.

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[84] New York Med. Jour., Dec. 31, '98.
[85] Phila. Med. Jour., Apr. 2, '98.
[86] La Médecine Moderne, viii, p. 832.
[87] Med. Rev. of Rev., June 25, '98.
[88] Revue des Mal. de l'Enfance, Mar., '98.
[89] Sem. Méd., vol. xviii, p. 6.

ABDOMINAL SECTIONS.

In 65 consecutive abdominal sections without a death the prophylactic measures taken were largely to be credited for the uniformly favorable result, since there is, at the present day, far less danger to the patient from defective operative skill than from sepsis. The use of rubber gloves and sleeves are strongly advocated. Sutures and ligatures, silk, silk-worm gut, catgut, and silver wire were used. In cleansing the abdomen sponges of gauzes were used, as it is practically impossible to asepticize sea-sponges. After the section the abdominal cavity was freely irrigated with a warm, normal, salt solution, poured directly into the abdominal cavity from the glass graduate. Strips of plain, sterilized gauze were preferred for drainage, and from three hundred to five hundred cubic centimetres of the salt solution were left in the abdomen. Frequently drainage was not necessary beyond placing the patient in the usual postural position for drainage. Immediately after the operation the patient was placed in bed and watched closely for the appearance of symptoms indicating shock; in order to guard against this when it was feared, a small dose of strychnine hypodermically was often given, its action being aided by also giving enemas of strong black coffee. The dorsal position was generally maintained for the first twelve hours, and the patient permitted to sleep as much as desired. Nutrient enemas followed, and the bowels were usually opened on the second or third day, by calomel by the mouth and a high rectal injection of glycerin followed by an enema of weak, warm soap-suds. The patient was generally catheterized every eight hours. Morphine was seldom used, other measures being tried first; but if the patient seemed on that border-land of shock in which pain and uneasiness might carry her over into a dangerous condition, she was quieted by giving from 20 to 30 minims of tincture of deodorized opium by the rectum. When the need was extreme, morphine was given hypodermically in doses of from $^1/_6$ to $^1/_4$ grain. Tympanites was relieved by the use of the rectal tube. Since the paper was prepared 11 more cases have been successfully operated on, making a series of 76. Of these 76, in all but 3 the wound healed by first intention, and in but 1 was there formation of pus. Hunter Robb (Phila. Med. Jour., June 3, '99).

ALIMENTATION, RECTAL.

Life is certainly prolonged in many cases by rectal feeling. In ulcer of the gastric mucosæ, hyperchlorhydria, and dilatation rest at least is obtained, while the patient is partially nourished. The use of rectal enemata has also been advocated in typhoid fevers. Leube, one of the first to use rectal feeding, advises the following formula: To 5 ounces of finely-scraped meat, chopped still finer, 1 or 2 ounces of chopped fresh pancreas and 3 ounces of water are added, then stirred to the consistency of pulp. After washing out the bowel, this is injected well up. Ewald has another which he extols. A pinch of the best flour is cooked in half a cupful of a 20-per-cent. solution of glucose. Two or three eggs are beaten up with a teaspoonful of water, and a wineglassful of claret added. This is stirred into the cooling flour and glucose solution, care being taken that it be not hot enough to coagulate the albumin. Huber improves on this by adding 15

grains of salt to each egg. Unquestionably the addition of salt favors dialysis. Somatose, an alimentary substance containing, besides water and salt, 78 per cent. of albumose and 24 per cent. of peptones, is very useful as an enema on account of its richness in albumin: four times as much as meat. An enema of somatose in salt water is said to relieve the feeling of hunger and faintness at the stomach. Ferro-somatose can also be used in case of anæmia and chlorosis when ulcer is suspected. L. H. Watson (New England Med. Monthly, Feb., '99).

ANTITOXIN IN DIPHTHERIA.

From a study of several cases of diphtheria treated with antitoxin, the following conclusions are drawn:—

1. Antitoxin, to be efficacious, should be administered early, the first three days being the reasonable time to expect good results.

2. The greater the time which elapses before the first dose, the poorer the patient's chance for recovery.

3. When immunized persons and those not treated are exposed to the same chances of contagion, the immunized escape and those not so treated "take" the disease. We may, therefore, conclude that all exposed individuals should be at once immunized.

4. As severe cases which, ordinarily treated, terminate fatally yield rapidly to this treatment, it is certainly to be regarded as good routine treatment, and, as the early treatment is the secret of success, the serum should be employed in all cases in which diphtheria is even suspected, even before the bacteriological diagnosis is complete, it being perfectly harmless if properly administered. By this is meant that the serum should be of standard preparation and not over six months old, and that perfect asepsis is the rule.

5. The only unpleasant effect is that sometimes a slight urticaria is observed about the site of inoculation (occasionally becoming general). This gradually passes away in the course of a few days, and is of trivial importance. Palmer H. Lyon (New York Med. Jour., June 3, '99).

BLINDNESS, POST-HÆMORRHAGIC.

Conclusions regarding the etiology of post-hæmorrhagic blindness are as follow:—

1. That the weight of evidence afforded by the ophthalmoscope points to thrombosis of the central retinal artery as the usual cause of blindness which occurs in post-hæmorrhagic anæmia.

2. That the resistance offered to the already-enfeebled blood-current in the central retinal artery by the intra-ocular tension is an important etiological factor in determining this result.

3. That, in very exceptional instances, the ophthalmoscope indicates that the thrombosis occurs not in the artery, but in the central retinal vein.

4. That, in other exceptional instances, it may be that the loss of sight and the ophthalmoscopic changes which accompany it are the result of an hæmorrhagic or serous effusion into the optic nerve or its sheath (Samelsohn). And here, again, the obstruction and damming back of the blood-current in the central retinal artery by the intra-ocular tension probably have much to do with bringing about this result. Samuel Theobald (John Hopkins Hospital Bulletin, May, '99).

CARCINOMA, UTERINE.

Surgical Treatment.—From large experience with uterine cancer a method

has been obtained by which the entire genitals, together with the entire broad ligaments, can be extirpated *per vaginam*. This is effected with the aid of clamps, not with ligatures, because, with the crushing and necrotizing effects of the clamp upon the tissue grasped, the operation may be extended to regions which the ligature cannot reach, or where it must remain ineffectual. This method especially enables one to extirpate by the vagina approximately every carcinoma which is limited to the uterus. If the carcinoma has already spread to the vagina, then during the course of vaginal hysterectomy the posterior vaginal wall can be removed in its whole extent. When the anterior vaginal wall is affected the bladder should be examined with the cystoscope. When the carcinoma has spread to the parametria and the uterus is not greatly enlarged in size, vaginal total extirpation is technically possible and therefore indicated. And, lastly, in a case of carcinoma of the uterus complicated with tumors or inflammatory troubles of the adnexa, with the proper technique, vaginal hysterectomy can be performed and completed. Only when the enlargement of the uterus caused by the cancer itself or by complication with myoma is so great that not even with the aid of vagino-perineal incisions can the parts be brought out *in toto* through the vagina is ventral hysterectomy superior to the vaginal method. In presenting the results of these operations during the last five years it is clear that the permanent results can be the only criterion of the value of a surgical method in the treatment of an otherwise-incurable disease. A method which shows 100 per cent. of recoveries from the operation and yet does not prolong life would be a delusion; a method, however, which gives a small mortality and also cures a surprisingly great percentage of patients forces the surgeon to adopt it. Only such cases should be included where the pathologist can demonstrate carcinoma in the extirpated specimen.

Personal results are as follow: Of 123 cases operated on under the above-described indications, 8 died from the operation. In 48 the operation was done more than five years ago; of these, 13 —that is, 27 per cent.—have remained well. In other words, with the operation of vaginal hysterectomy performed according to personal method, about one woman in four can be permanently cured. One may be sure of a permanent cure, if, at the end of five years no recurrence takes place. Another means of improving the permanent results is by the systematic removal of recurrences. If recurrence takes place after total extirpation of the genitals, it is possible to attack it radically with prospects of success. Theodor Landau (Brit. Med. Jour., May 27, '99).

CARCINOMA.

Treatment.—From a study of organotherapy in inoperable carcinoma, the following conclusions are reached:—

1. The ovaries exert a curious and as yet incomprehensible influence over the tissues of the body, and especially over the mammary glands.

2. This ovarian influence is, in part, neutralized by the action of the thyroid gland or of thyroid substance introduced into the body.

3. The administration of thyroid extract alone to patients suffering from cancer of the mammary gland or of the cervix uteri which has passed beyond the possibility of extirpation by the knife exerts a slight inhibitory action upon the growth, and results in a decided relief of

the two prominent symptoms: pain and discharge. This action, however, appears to be but temporary.

4. The removal of the ovaries in cases of inoperable carcinomata, provided these organs be actively functionating, will result in many cases in an arrest of the progress of the malignant disease, or even in the total destruction of the neoplasm, and an apparent cure of the condition.

5. This inhibitory action of oöphorectomy in inoperable carcinomata is more decided if at the same time as much of the cancerous growth be excised as is possible, and the operations be supplemented by the administration of thyroid extract in full doses.

6. In older women, in whom there has already occurred an atrophy of the ovarian stroma, excision of these organs does not result as promptly nor as favorably as in women who are passing through the period of sexual activity.

7. The relief afforded by the employment of Beatson's method appears in from twenty-four to forty-eight hours, and in favorable cases is rapidly progressive.

8. The dose of the thyroid extract that may be safely employed varies from 10 to 15 grains daily.

9. It would seem that, even though this method should not result in an absolute cure of the malignant disease, it would afford a longer lease on life and more effectual relief from suffering than would any other palliative operative procedure as yet devised. Dorland (Ther. Gaz., May 15, '99).

CEREBRO-SPINAL MENINGITIS.

Treatment.—In cerebro-spinal meningitis the diet should consist of nutritious liquids, and during convalescence a gradual return to the normal diet. The cases

are best treated symptomatically. Pain calls for opium. Morphine affords protection against the pain and spasm, and at the same time supports the heart. Ergot and belladonna are efficient remedies to lessen the congestion of the capillaries early in the disease. If convulsions are threatening, chloral may be used. Even in children morphine—$^1/_{30}$, $^1/_{20}$, and $^1/_{16}$ grain—does more to quiet them and control the respiratory centres than any other remedy. After effusion the narcotics are to be replaced by remedies which promote absorption, such as potassium and sodium iodide and mercuric chloride. Cold is grateful and of value. The ice-bag should be applied to the head and the entire length of the spine. T. D. Williams (Phila. Med. Jour., June 3, '99).

CHILBLAINS.

Treatment.—Electricity, used in the following manner, has given excellent results in chilblains. An induction-coil is used and the wires are attached to two metallic plates which are placed at the ends of an ordinary earthenware foot-bath filled with warm water. The patient is instructed to use this bath at bedtime for ten or fifteen minutes whenever the slightest threatening of chilblains is noticed. The current is used as strong as it can be borne without discomfort, the effect being to make the feet warm with a glow which lasts until the patient goes to sleep. Any swelling or congestion of the toes quickly disappears and all danger of serious trouble from a broken chilblain is warded off. Besides its use for the prevention of actual chilblains, the treatment may be used in cases where the patients complain of cold feet. The electric stimulation seems to improve the circulation in the extremi-

ties to an extent far superior to anything which can be obtained from an ordinary warm foot-bath. A short course of electric foot-baths for eight or ten consecutive nights not only dispels chilblains which have already formed, but seems to produce an improved state of the circulation which renders the patient more or less chilblain-proof for some time after the baths have been stopped. H. Lewis Jones (Lancet, p. 88, Jan. 14, '99).

CHLOROFORM.

The administration of chloroform while artificial lights are burning is likely to produce broncho-pneumonia and œdema of the lungs, with marked passive congestion of the liver and kidneys. This variety of poisoning also occurs with some frequency in druggists and chemists who use chloroform in the presence of gas-flames. Kenelm Winslow (Boston Med. and Surg. Jour., May 11, '99).

Chloroform-water.—The nausea after chloroform anæsthesia will not occur if, for several weeks before undergoing operation, the patient will take chloroform-water so as to accustom the system to it. In order to avoid as much as possible the unpleasant taste and smell of chloroform, the following mixture may be given:—

℞ Aq. chlorof., 6 ounces.
Spir. menth. pip.,
Spir. anis., of each, 4 drops.

Filter after twelve hours. Weber (Bull. Gén. de Thér., Apr., '99).

CODLIVER-OIL.

The following conclusions are reached regarding the effects of codliver-oil upon the gastric secretions: 1. Codliver-oil diminishes the amount of hydrochloric acid as well as the pepsin; at the beginning the pepsin suffers most, and only in the latter stages does the diminution of hydrochloric acid and pepsin become uniform. 2. The inhibitory action of codliver-oil upon the gastric secretion is most marked at the beginning; during the further course of the function of the gastric mucous membrane the effect of the codliver-oil is less. 3. The secretory activity of the glands of the stomach is rendered weaker under the influence of codliver-oil, but lasts for a longer time. 4. Upon these grounds, we give, without good foundation, too high a therapeutic place to codliver-oil to the exclusion of other fats. The good which the patient derives from codliver-oil as a fat is unbalanced by the harm it does, inasmuch as with the use of codliver-oil there is a diminution in the digestion of proteids. Wirschillo (Wratch, No. 3, '99).

COLIC OF INFANTS.

Treatment.—In colic the use of warm enemata will usually remove the gas. The enema may be of soap-suds and water, or may contain a few drops of turpentine, or half-teaspoonful of glycerin. Hot applications should also be made to the abdomen, and the feet and hands be warmed at the fire or by a hot-water bag. Small amounts of hot whisky and water with a drop of essence of peppermint and a little sodium bicarbonate by the mouth will give relief.

Dr. Larrabee used to recommend one of the following combinations:—

℞ Spt. ammonii aromat., 6 minims.
Sodii bicarbonatis, 12 grains.
Syr. rhei aromatic., 1 drachm.
Aquæ carui, 1 ½ ounces.

M. Ft. sol.

Sig.: Teaspoonful p. r. n.

Or the following:—

℞ Tr. asafœtidæ, 15 minims.
Ol. cajuputi, 2 drops.
Magnesia carbonate, ½ drachm.
Syr. acaciæ, ½ ounce.
Aquæ anisæ, 1½ ounces.

M. Ft. mist.

Sig.: Teaspoonful p. r. n.

Some form of cathartic should be administered after relief of the urgent symptoms.

The aromatic antiseptics, when given diluted in hot water, are often of service in relieving the paroxysm and preventing the formation of gas. The most frequent cause of colic is the presence of too much proteid in the milk, as is evidenced by the stools' containing undigested casein or having the cheesy odor. Therefore in habitual colic proteids should be diminished. Philip F. Barbour (Pediatrics, May 1, '99).

CROUP.

Treatment.—The following prescription, suggested by Joseph Holt, of New Orleans, has been personally tried many times with the happiest results:—

℞ Chloralis, 75 grains.
Potassii bromidi, 45 grains.
Ammonii bromidi, 30 grains.
Aquæ cinnamonii, 2 ounces.

Sig.: Teaspoonful and repeat in twenty minutes if not relieved.

This is intended for a child about five years old. For younger children the dose is slightly diminished. The chloral relieves the spasm of the larynx and the bromides allay the nervousness; so that the little patient is soon asleep and wakes the next morning as well as usual. The first dose generally gives relief.

This prescription is of no benefit in true or membranous croup, when diphtheria antitoxin must be promptly used. Henry R. Slack (Jour. Amer. Med. Assoc., May 6, '99).

DIABETES MELLITUS IN CHILDREN.

The symptoms usually seen in the very young are incontinence of urine from polyuria, nervous irritability, and excessive thirst; the emaciation, weakness, and loss of color that are common in adults are often absent in children, at any rate until very late. The children are likely to die in coma. Charles W. Townsend (Boston Med. and Surg. Jour., May 11, '99).

ECZEMA IN CHILDREN.

Treatment.—In nursing infants when eczema is caused by intestinal indigestion, it will usually be found that either the fats or the albuminoids are in excess. An examination of the mother's milk is often demanded. Nearly always it will be found that the mother is overfed and overstimulated, as, for example, by the use of malt liquors. If the mother is made to take sufficient exercise in the open air, this alone will often solve the problem of overcoming the infant's indigestion. It is sometimes necessary to reduce the number of nursings. It may be well in these cases to give water freely to the nursling, particularly in the intervals of nursing. In the great majority of cases in which eczema occurs in bottle-fed infants the proteids are at fault. Sometimes the proteids may be reduced to 1 per cent. or 0.5 per cent. instead of, as is often the case, 2 or 2.5 per cent. Dilution of the milk with the cereals gives good results in regard to the effect on the proteids. There is, of course, a disadvantage in adding the cereals; *i.e.*, the introduction of starch. This may, however, be largely obviated by the addition of diastase in some form. Older children presenting evidence of eczema

are almost always overfed. The treatment consists in excluding fermentative foods as far as possible, and in giving these children milk, meat-broths, perhaps a little meat, zwieback, and similar articles of food. Almost invariably these children have been fed very largely on boiled potatoes.

The dietetic oversight of eczema must be continued for a long time if success is to be achieved. Henry Dwight Chapin (Pediatrics, Mar. 1, '99).

ENTEROCOLITIS IN CHILDREN.

In enterocolitis of children the relief of the temperature is by far the most important part of the treatment, for it is the high temperature which leads to depression and eventually to collapse, and by the control of the temperature collapse is controlled or prevented. The local use of water by flushing of the colon and the external use of tepid baths are the most advantageous means of accomplishing this. Antipyretic remedies are worse than useless. In the practical performance of the act of douching it is advisable to insert the tube, which is a large-sized catheter, high up into the bowel.

The temperature of the water should be from 100° to 80°, according to the nature of the case and the elevation of the temperature. When the strength of the patient is not too greatly impaired and the temperature is high, flushing with water at 80° may be permissible, but in weakly children a higher temperature is more desirable. In cases of moderate severity one thorough douche daily, using 1 or 2 quarts of water, is sufficient. In cases of greater urgency two or even three douches per day may be advisable, if the strength of the child permits such frequent interference. The external use of water is distinctly secondary in importance, and is only useful in the milder cases and in the early stages of the affection. In the later stages, when collapse begins to threaten, external cold is manifestly improper, and hot packs to the extremities or hot flannels wrapped about the patient are more appropriate. In some cases baths of a stimulating sort may be used. Such a bath may be prepared by adding to the usual quantity of cool water in a child's bath-tub a fluidounce or two of spirit of camphor. Opium in exceedingly small doses in the earliest stages is advisable. It must be clearly understood, however, that it is not intended to relieve pains or to check diarrhœa. In the earlier stages of the disease it is highly desirable that diarrhœa should continue. In cases in which the colonic douches are used a drop or two of tincture of opium may be added to the water. In other cases powdered opium with subgallate or subcarbonate of bismuth in combination like the following may be used:—

℞ Bismuth subgallat., 24 to 36 grains.
Pulv. opii, $^1/_2$ grain.
Pepsini puv., 6 or 12 grains.
Tr. in pulv. No. 12.
Sig.: One ever four hours, alternating with the following:—

℞ Hydrarg. chlorid. mitis, $^1/_2$ grain.
Cerii oxalat., 2 grains.
Sacch. alb., q. s.
Tr. in pulv. No. 12.
Sig.: One every four hours.

Astringent remedies are rarely useful in these cases of enterocolitis. Stimulants such as aromatic spirit of ammonia or brandy in doses of 5 to 10 drops and tincture of nux vomica in doses of 1 or 2 drops, may be useful when the general condition demands support of this kind. In the earliest stages of the disease, when

vomiting is still a prominent feature, food may be withheld for twenty-four hours, during which time vigorous treatment may secure control of the disease. If, however, the nutrition of the child does not seem to warrant this, barley-water, rice-water, beef-juice, or egg-water made by dissolving the white of an egg in a half-pint of water may be given. Later milk must be the principal part of the dietary. It should be well diluted, pasteurized, and sometimes it is necessary that it be predigested. Alfred Stengel (North Carolina Med. Jour., Apr. 20, '99).

ERYTHEMA, RECURRENT, DESQUAMATIVE, SCARLATINIFORM.

Diagnosis. — The rapid and universal invasion with an erythematous efflorescence, followed by desquamation in large patches a few days from the onset, the tendency to relapse, and sooner or later to recur at intervals of months or years are the most characteristic features. The chief difficulty is to differentiate it from scarlet fever in some cases. In the absence of history of previous attacks the most important points are the extremely-short duration of the prodromal symptoms, the development of the rash not corresponding to the rule of scarlatina, the temperature not being raised so much as would be expected from the full development of the rash, if it were really scarlatina, and the abrupt commencement of the desquamation after three or four days in large flakes. From the more typical form of pityriasis rubra, the non-persistence of the exfoliation in scales, and the relapses every few days, would make a differentiation, as well as the short course, as a whole, whether with or without relapses.

Treatment. — A uniform temperature should be maintained, together with rest in bed, and locally inunction with olive-oil or other emollient, to relieve the tension of the skin. Full doses of the perchloride of iron should be administered. H. R. Crocker (British Journal of Dermatology, May, '99).

FORCEPS, OBSTETRICAL, USE OF.

The following rules should be applied in the use of the obstetrical forceps:—

1. The forceps should never be used unless there are positive indications for its use. The so-called "luxus" instrumentation is never an indication. When Nature asserts herself as unable to deliver spontaneously, then, and then only, does art come in. Exhaustion on the part of the mother is recognized by changes in temperature and pulse, as also on the part of the child by alterations in rapidity, volume, and strength of the fœtal pulsations, and a continuous free discharge of meconium in the absence of a breech presentation. 2. The head must be in a normal position, or so relatively normal that operative interference will rapidly convert in into one. It is always better, however, to convert by manual methods faulty positions before having recourse to instrumental interference, as witness: face case, chin behind. Under these conditions manual flexion of the head is resorted to, to convert it into occipito-anterior position, when forceps delivery is accomplished. Face case with the chin in front is considered a normal position; hence direct forceps application. 3. The head must be engaged or at least fixed at the brim. S. Marx (Medical Record, Apr. 15, '99).

HOLOCAIN, ADVANTAGES OF, OVER COCAINE.

The advantages of holocain over cocaine are:—

1. It does not cause mydriasis, and may therefore be used without danger of bringing about increase of tension.

2. It does not affect the accommodation.

3. It brings about a greater degree of anæsthesia of the iris than does cocaine.

4. In cases of severe and painful inflammation which resist cocaine, holocain often proves efficient.

5. Unless swallowed or injected subcutaneously it produces no constitutional effects.

6. It has no effect on the corneal epithelium.

7. It is strongly bactericidal in its action.

Per contra, cocaine distinctly reduces the tendency to hæmorrhage and it can be injected into the lacrymal sac, often subcutaneously, with comparative impunity. Hasket Derby (Archives of Ophthalmology, vol. xviii, No. 1, '99).

INGUINAL HERNIA, OPERATION FOR, WITHOUT BURIED SUTURES.

A method has been devised whereby the employment of buried sutures in radical operations for hernia in the inguinal canal is obviated. The sutures are double silver sutures put in layers. They are U-shaped, the two ends being brought out through the skin on the lower side of the wound and fastened over rolls of sterile gauze, the doubled portion being on the opposite of the wound in the lower layer in the internal oblique muscle, and in the upper in the aponeurosis of the external oblique, or on the skin where they are looped over other rolls of sterile gauze. In one instance superficial skin sutures are employed, in the other they are not essential. The stitches are removed on the fourteenth or fifteenth day. This method has been successful in seventeen cases. Jonnescu (Cent. f. Chir., No. 3, '99).

MOVABLE KIDNEY.

Symptoms.—The chief symptoms of movable kidney are pains in the back, generally of a changing character, from dull to sharp. Dizziness is also a frequent symptom. Then come those symptoms due to enteroptosis and the gastric symptoms. Then those of the circulatory system, consisting of palpitation, sometimes irregular heart-action, distension of the abdominal aorta, throbbing of this vessel, and kinking of the renal artery. Then the symptoms from the nervous system: neurasthenia, trembling, dizziness; headaches, occipital or frontal; and deep depression. A great many of the symptoms of the movable kidney are doubtless caused by pressure on the solar plexus. Gustav Futterer (Amer. Gynec. and Obst. Jour., Feb., '99).

NURSING-BOTTLE WITH LONG TUBE.

Bad air, summer-heat, ignorance of simple hygiene, especially artificial feeding are mainly responsible for the infantile death-rates from diarrhœal diseases. A series of microscopical and bacteriological investigations were carried out on the long-tube nursing-bottle. Microscopical examination of transverse sections cut from the rubber tubes of nursing-bottles shows that they are usually manufactured out of rubber sheeting cemented together at their longitudinal margins and imperfect seams are almost invariably found. The material used is very porous, and any foreign material gaining entrance to these seams, sinuses, and porosities cannot be removed by any of the ordinary methods of cleansing. On rubber tubing which had been used was found a deposit of decomposing

material, which was thickest in the portions in close proximity to the nipple and glass tubing. This deposit consisted of coagulated casein, in which was found innumerable bacteria. The bacillus of lactic acid, the staphylococcus pyogenes aureus, and the ouidium albicans were most often found. Five decigrammes of this material dissolved in two cubic centimetres of sterile water and injected in the peritoneal cavity of three full-grown guinea-pigs produced death of the animals in from forty-eight to sixty-three hours. Ernest Wende (Albany Med. Annals, Mar., '99).

OVARIES, PAINFUL DISEASES OF.

The cystic ovary is excessively painful to the touch, either through the vagina or rectum, while in varices of the plexus the ovary is not so painful or not painful at all. The pain is usually much worse as the menstrual period approaches, and remains severest in cystic ovaries during the time of flow. Not so, however, with those in whom a varicosed condition of the venous plexus exists. They usually suffer most during the intermenstrual periods, their period of rest being after the flow has been fully established. George Halley (Jour. Amer. Med. Assoc., Apr. 29, '99).

PERTUSSIS.

Treatment.—In the treatment of pertussis the use of acidulated solutions of quinine hold a high place as a valuable local as well as systemic remedy. No one agent has accomplished so much in personal cases. A more promising measure, however, has been recently reported, viz.: vaccination upon those not yet thus protected. W. B. Taylor relates eleven cases thus treated, two of which passed out of sight, but were presumably relieved, and nine cases entirely and promptly relieved in at least two weeks from the time of vaccination.

As soon as the inoculation was fully accomplished, about the fourteenth day, the cough modified and only a bronchial irritation remained, which soon passed away.

A remedy to relieve and check the force of the paroxysm, which can be safely applied by the mother or nurse, consists of a mixture of amyl-nitrite, $^1/_2$ drachm; spt. chloroformi, 3 drachms; ether. sulph., 5 drachms; of which a few drops can be applied on a handkerchief held to the child's nose during the "lock-spasm." J. Madison Taylor (Pediatrics, Apr. 1, '99).

PREGNANCY.

Cardiac Complications.—Patients that are suffering from cardiac disease should be guided in regard to marriage and pregnancy by the following rules:—

If the cardiac muscle is healthy; if there has never been broken compensation; or if the patient lives in a condition that is favorable to rest, marriage and pregnancy may be authorized, although a lesion of one of the orifices of the heart exists. It is the duty of the physician, however, to inform the patient that if pregnancy occurs it will be necessary for her to place herself in such an environment that she may preserve her own life and that of her child, and that the necessary conditions for the accomplishment of this result should be prescribed by a physician. The patient should also be warned against the unhappy influence of too frequent pregnancies. It is necessary to advise against pregnancy in all those that have shown loss of compensation, however slight, particularly if such loss of compensation accompanies mitral stenosis; in those in which her social position does not allow

the woman to take the necessary care of herself; and in those in which there is albuminuria, hepatic lesion, or pulmonary lesion. M. Oui (Gaz. Heb. de Méd. et de Chir., Jan. 15, '99).

Operations During.—All ovarian tumors which are recognized during pregnancy should be promptly removed, even quite late in pregnancy. The risks of operation are much less than the risks of delay. Fibroid tumors should not be operated on by myomectomy during pregnancy, unless there is some very special reason to the contrary; because the chances of abortion are so great. The only variety of fibroid tumor which it would be justifiable to remove would be a cervical fibroid or one situated very low in the pelvis, which could be got out by the vagina, and should be taken out in the later months of pregnancy, when, should premature labor occur, it would probably do no great harm. In conditions giving rise to the discharge of pus about the genitalia which are amenable to operative treatment during pregnancy, operation is strongly indicated.

With reference to general operations in various parts of the body, the indication for operation should be marked; that is to say, evidence should be present that the patient's life or health would be seriously jeoparded by letting the condition continue until after labor. The fear of bringing on abortion by operations in other parts of the body is not correct. So, if the indication points strongly to operation, it should be carried out. This applies especially to such diseases as cancer or appendicitis, which threaten life immediately or more remotely. The teaching of the books in reference to hæmorrhoids is that they should be left alone until after labor; but it is a far more serious matter to have sloughing hæmorrhoids complicating the puerperium than to tie them off in the later weeks of pregnancy. Personally there would be no hesitation in removing hæmorrhoids during the last month of pregnancy; so that the wound would be healed before labor came on. Charles P. Noble (Amer. Gynec. and Obst. Jour., Apr., '99).

RACHITIS.

Treatment.—Diet is first in importance in the treatment of rachitis. If the infant is breast-fed, analysis of the mother's milk should be made, and, if found deficient in quality and not susceptible of improvement, cows' milk, properly modified, should be substituted. In infants artificially fed, proprietary and other foods containing an excess of carbohydrate and deficient in fat and proteid should be stopped, and modified milk adapted to the age and digestive power of the infant given instead. Infants who have passed the nursing period should be put upon a diet rich in proteid and fat.

Hygienic surroundings are next in importance in the treatment of this disease. Fresh air, sunshine, and cleanliness are important. Codliver-oil is of undoubted value; its beneficial effects being due largely to its nutritive properties. It is preferably given in the form of an emulsion, and should be administered in small and frequently repeated doses. The lime-salts—as the phosphates, lactophosphate, and the hypophosphite—may be given. Phosphorus is given in the dose of $^1/_{200}$ grain dissolved in olive-oil or codliver-oil, three times daily. Iron and arsenic are indicated where there is marked anæmia. L. Boorse (Clinical Review, May, '99).

RECTO-VAGINAL SEPTUM, COMPLETE TEAR OF.

Treatment.—In order to avoid infec-

tion following the operation for complete tear of the recto-vaginal septum, the incision is made across the septum beginning at the outer side of the internal sphincter and well above the junction of the vaginal and rectal mucosæ. Then a denudation is made above, as in the Emmet operation. A finger is then put into the bowel as a guide to its exact location, and a flap dissected loose and brought down like an apron, great care being taken not to wound the bowel. By doing this the internal sphincter is exposed and laid bare. After dissecting this sphincter loose the sides of the septum are approximated with buried figure-of-eight sutures. Three or four of these sutures are all that are required, and, when properly applied, they do away with all the danger of a central dead space, which would be very likely to break down. The parts being in snug apposition, the external sphincter is united by either interrupted or a continuous catgut suture. The vaginal surface and the skin perineum are then closed in the usual manner. Then the flap is brought together by a few interrupted sutures. It is now no longer a case of rectal tear, as there is no wound in the rectum, the wound surface being pushed outside the anus. The greater the pressure of fæcal matter, the farther outside it goes. So what would otherwise be a place for infection is now removed. Howard Kelly (Med. News, June 3, '99).

SMALL-POX.

The purulent change in the vesicles in small-pox is due to pyogenic organisms entering the vesicle from without, and not through the lymphatic system. Two means of eliminating this element are suggested: 1. Prevention of suppuration in the vesicle. 2. By injecting the antitoxin. The streptococcus pyogenes aureus is probably the predominant organism; so injections of antistreptococcic serum were employed in a number of cases, thus carrying out the second method. Those cases only were chosen in which the prognosis was gravest. The serum was injected aseptically into the subcutaneous tissue of the abdominal wall, either just before or coincident with pustulation. These injections were usually given at intervals of twelve to twenty-four hours. Digitalis, tincture of chloride of iron, or liquor strychniæ was also given every four hours. In no case were more than three injections given. By this means critical period following the absorption of the pustules was shortened, the intensity of the toxæmia seemed to be less, and there was much less tendency to cardiac failure or collapse. The pulse, though rapid, was regular, and the strength of the beat well maintained. Convalescence set in earlier and progressed more rapidly. These patients were out of danger and out of bed before others with attacks of similar intensity. W. J. Lindsay (Brit. Med. Jour., May 13, '99).

STOMACH IRRIGATION.

The irrigation of the stomach meets almost no difficulties in infants and children, in whom a catheter No. 25 or 30 French is sufficient. When the pharynx is too irritable, or the patient refractory, the tube may be introduced through the larger, oftener the right, nostril. Salt-water solution of 7 to 1000 may be run through it from a funnel or a fountain-syringe which is slightly raised above the level of the pharynx, and lowered when the fluid and stomach-contents flow out. This salt water may be mixed with a disinfectant,—say, thymol, 1 to 3000 or 4000, or in cases of hyperacidity with the bicarbonate of sodium 1 to 200 or 500. The temperature should be that of the

body when this is normal, somewhat or considerably cooler when there is a high elevation, or warmer when there is a reduction of the body-temperature. When water is injected without salt, it causes osmosis of the body-fluids into the stomach sometimes to such an extent as to visibly increase the amount returning from the stomach. The irrigations should amount to 100 and more cubic centimetres in the nursling, 200 or 300 in the child, 500 or 700 in the adult. They should be repeated until they return clear. The tube should always be withdrawn quickly so as to avoid irritation of the fauces. A. Jacobi (New Eng. Med. Monthly, May, '99).

SYPHILIS.

Diagnosis. — Forty-three cases have been tested for Justus's syphilitic reaction, which consists in a sharp transient reduction of the hæmoglobin after the administration by inunction or hypodermic injection of mercury. Seven cases were actively syphilitic, and showed a reduction of hæmoglobin after inunction of from 10 to 35 per cent.; 3 cases giving the history of syphilis without any lesions failed to react; 33 cases of various other diseases failed to give the reaction, with the exception of 1 case of chlorosis, which showed a reduction of 13 per cent. hæmoglobin, but there was no evidence of syphilis and no history that could be assumed to indicate its presence. In a case of ulceration of the larynx it was possible to make a differential diagnosis between tuberculosis and syphilis, which diagnosis was confirmed by autopsy. Richard C. Cabot (Boston Med. and Surg. Jour., Apr. 6, '99).

Inherited.—A chronological order of involvement in syphilis when inherited is quite wanting. The symptoms must therefore be designated simply as those usually of early and those of later appearance.

1. Next to the look of little old men, the most characteristic sign is sallow color of the skin. This applies to the newborn. 2. The umbilical cord is so extremely thick as to seem swelled, and also apt to be very long; and very slow in becoming detached from the navel. 3. Pemphigus syphiliticus. The mortality is almost 100 per cent. The vesicular syphilide—much rarer—occurs in small blisters, and is commonly associated with pustular eruption. 4. The common eruption in its most frequent early form is an erythema. The macules first appear upon the lower part of the abdomen and about the genitals, as a rule; pinkish early, later coppery in color. The rash is apt to show itself first about three weeks after birth. In only about 25 per cent. of the cases of inherited syphilis do we find any eruption at all. 5. Condylomata are often seen early, and at the muco-cutaneous junctions, and where there is chafing and moisture of the skin. 6. "Snuffles" is one of the commonest signs. 7. Pathological changes in the larynx—*i.e.*, mucous patches, ulceration, or, later on, gummatous involvement at times—are responsible for the characteristic hoarseness of the crying and of the speaking voice. 8. Mucous patches will be found quite often upon any of the mucous surfaces capable of inspection. 9. Even in the absence of such patches a general stomatitis and pharyngitis is an almost constant phenomenon in early stages of congenital syphilis. Ulceration is apt to appear later. 10. As a distinguished sign between the congenital and the acquired variety, it is a striking fact that general lymph-nodular enlargement of the usual subacute and chronic kind is characteristically absent in the genital

typo. 11. Hæmorrhages, while infrequent, are diagnostic when present. 12. Among visceral involvements, Virchow's term, "a white pneumonia," is due mainly to a fatty degeneration of the epithelium of the air-vesicles. 13. A distinct enlargement of the liver, accompanying other signs, is suspicious. It may cause ascites, but is not accompanied by jaundice. 14. In newborn syphilis the spleen is almost always involved. 15. Certain eye-troubles are highly diagnostic. One, almost pathognomonic, is "ground-glass cornea," due to interstitial punctate keratitis, and with no tendency to ulceration. Iritis, choroiditis, retinitis, and optic neuritis may also be found. 16. Inflammation of the middle ear, when associated with certain other symptoms, is of value. Hutchinson's "triad of symptoms" are: notched teeth, ground-glass cornea, and otitis media. Hutchinson also mentions a suddenly and painlessly occurring deafness as being almost always of this nature, and may lead to deaf-mutism. 17. A rapidly-occurring alopecia is suspicious of syphilis. 18. A painless orchitis is of great value when present. 19. Neuroses are infrequent and do not occur very early, as a rule. Chorea, epilepsy, and hemiplegia may be seen. Suddenly and quietly appearing paralysis should make one think of this disease before any other. 20. Among the commonest and earliest of all important signs is osteochondritis, involving the shafts and epiphyseal junctions of the long bones. It is usually found at birth or a month later. 21. Later in appearance than osteochondritis is syphilitic periostitis. Characteristic from this source are "the nodes of Parrot." Here the two halves of the frontal bone and the two parietal bones are so thickened as to form distinct bosses, four in number, and surrounding the anterior fontanel. 22. Dactylitis syphilitica affects mainly the first phalanges. 23. The finger-nails have sometimes peculiar forms of onychia. It may be ulcerative, but, in particular, there is one characteristic form: "the claw." 24. The temporary teeth are cut very early, of bad color, and liable to a crumbling decay. The upper central incisors of the milk-set suffer first (Erichsen). 25. Hutchinson's teeth are only found in the permanent set. The upper central incisors are again the ones mainly involved, or at least most characteristic. Not all cases of syphilis, however, either inherited or acquired, who reach the necessary age to have second incisors present Hutchinson's teeth. He, himself pointed out that it is found only in those who have had syphilitic stomatitis at an early age. 26. In late cases are found irregularities, hypertrophies, and asymmetries of bony development. In the face the nose is the characteristic deformity. The tibia is elsewhere the most characteristic of these late bony changes. It is greatly thickened. 27. Chronic fissures about the lips often exist in late cases, and these leave diagnostic linear cicatrices there. Small scars upon the skin or mucous membranes of children no longer in infancy deserve study. When of this nature they are apt to be in outline curvilinear or crescentic, in groups, and not rarely are symmetrical upon the two sides. They are especially diagnostic when found upon the upper part of the legs. Such signs imply that the child once had a rather severe type of the disease, though now, perhaps, cured. H. M. Dawbarn (New York Med. Jour., Apr. 8, '99).

TUBERCULOSIS IN CHILDREN.

Etiology.—From results of post-mortem examinations on children dying of tuberculosis at the Children's Hospital,

Paddington, the following conclusions are drawn:—

1. Thoracic tuberculosis in children is more common than abdominal, in the proportion of three to two.

2. Tabes mesenterica as a cause of death in young children is practically unknown.

3. The preponderance of thoracic over abdominal tuberculosis is not necessary and solely due to the direct entry of the bacilli into the air-passages.

4. Primary infection through the alimentary tract does not prove that food has been the sole source of evil. Therefore tuberculosis in children is not likely to be materially checked by purification of milk-supply alone.

5. The alleged increase of tubercular meningitis of late years is probably due to severe epidemics of measles. Leonard Guthrie (Lancet, Feb. 4, '99).

TUMORS, MALIGNANT.

Treatment. — The conclusions in regard to the treatment of malignant tumors with the mixed toxins of erysipelas and bacillus prodigiosus are as follow:—

1. The mixed toxins of erysipelas and bacillus prodigiosus have an inhibitory action upon the growth of malignant tumors of whatever variety.

2. This influence is far more marked in sarcoma than in carcinoma, and differs very markedly in the different varieties of sarcoma, being most pronounced in the spindle-celled variety and least in the melanotic.

3. A considerable number of inoperable sarcomata, the correctness of the diagnosis of which is beyond question, have entirely disappeared under this method of treatment.

4. A large portion of these cases have remained free from recurrence more than three years after treatment: a period which has generally been accepted as of sufficient length to justify their being regarded as permanent cures.

5. The action of the toxins upon sarcoma must be regarded as a rapidly-progressing necrobiosis with fatty degeneration. This action in no way resembles that of a local escharotic, but is rather specific in character, exerting its destructive influence upon the tumor-tissue when injected subcutaneously at a distance, as well as when introduced locally.

6. This method of treatment is attended with some risk unless certain precautions are taken. These risks are: (*a*) collapse from too large a dose, especially when injected into a very vascular tumor; (*b*) pyæmia from insufficient care as regards asepsis, especially in the presence of a granulating or sloughing surface. That these risks are slight are shown by the fact that, in upward of two hundred cases of malignant tumor treated personally, death occurred in but two as a result of the treatment.

7. The use of small doses of the toxins for a short time after primary operation as a prophylactic measure theoretically has much to recommend it.

8. The action of the toxins upon sarcoma, as shown by the clinical results, is in strict accordance with the known action of the living streptococcus of erysipelas. Hence the method rests upon a perfectly logical and scientific basis.

9. The toxins, to be of value, must be prepared from highly-virulent cultures of the streptococcus of erysipelas. Coley (Practitioner, Apr., '99).

UTERINE DISPLACEMENTS.

Treatment. — Fine, sterilized lamb's wool is excellent, on account of its elas-

ticity, in the mechanical treatment of displacements of the uterus. These tampons should be used almost continuously. By the use of some antiseptic powder, such as boric acid, the tampon can be worn forty-eight hours. The Albert Smith and Emmett pessaries are also valuable in uterine displacements. The principle of the action of the pessary is to keep the cervix in or near its normal position about one inch from the sacrum, and the external os about two and one-half inches below the sacral promontory. The length, width, and amount of curvature of the pessary should be adapted to each individual case. T. J. Watkins (Amer. Gynec. and Obstet. Jour., Mar., '99).

In uncomplicated retroversion of the uterus strychnine, ergot, hyoscyamine, and, when necessary, aloin are to be given.

Local stimulants consist of hot-water vaginal douches, not less than a gallon each, containing alum, a drachm to the pint, at a temperature not less than 115° F., taken with the patient lying in a recumbent position, administered twice daily. Postural treatment—consisting in the woman's going to bed four times a day with clothes loosened and assuming the knee-chest position for two minutes, and while in that position accomplishing a ballooning of the vagina by retracting the posterior fourchet of the vagina sufficiently to allow the air to rush in—is advised. All the muscles of the pelvis should be strengthened by exercising them with a slow, interrupted faradic or sinusoidal electric current once every day, or at last every second day, for a period each time of ten minutes. Electrodes of two varieties may be used: the bipolar vaginal electrode, and, on alternate treatments, a unipolar vaginal electrode and an abdominal electrode. Franklin H. Martin (Amer. Gynec. and Obstet. Jour., Mar., '99).

VAPORIZATION, INTRA-UTERINE.

Intra-uterine vaporization may be used as follows:—

1. As an hæmostatic it has been employed most successfully in cases of non-malignant post-climacteric uterine hæmorrhages. It has proved curative in the various irregular bleedings met with in connection with catarrhal fungoid or hæmorrhagic endometritis. It acts as a palliative measure in certain cases of fibroid tumor or inoperable carcinoma associated with hæmorrhages. 2. As a caustic it can be relied on to destroy the mucous lining of the uterus, even to the extent of obliterating the uterine canal. 3. As a bactericide it may be used in cases of gonorrhœal or septic puerperal endometritis. 4. To reduce the bulk of the subinvoluted uterus Pincus has frequently resorted to intra-uterine vaporization with success. 5. In chronic suppurating fistulous tracts Fenomenow has reported successful results in cases of abdominal fistulas of several years' duration, which had resisted all other methods of treatment. Abram Brothers (New York Med. Jour., May 13, '99).

VOMITING, PERSISTENT.

In a case of persistent vomiting in a woman nearing the time of her confinement, by whom finally no medicine could be retained, applications of towels wet in ice-water over the epigastrium gave prompt relief after twenty minutes. Vomiting occurred several times during the day, but it was speedily controlled by the application of the ice-cold towels, and in twenty-four hours she was resting comfortably and had no return of the vomiting.

The condition of the heart must be

watched, but under ordinary conditions cold water is a safe, prompt, and efficient remedy, controlling vomiting when all other therapeutic measures fail. William F. Mitchell (Virginia Med. Semimonthly, Apr. 14, '99).

ERRATUM.

The editor would be obliged to the readers of the MONTHLY CYCLOPÆDIA if they would correct the error made in the prescription given in the fourth volume of the "Annual and Analytical Cyclopædia," on the upper line of page 615, changing the 6 drachms mentioned in Dr. Illingworth's prescription to $\frac{1}{6}$ grain.

New Books Received.

The editor begs to acknowledge, with thanks, the receipt of the following books:—

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, M.D., Gynæcologist to the Columbus Hospital; Consulting Gynæcologist to the French Hospital; late Consulting Obstetrician and Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynæcological Society, etc. With the Collaboration of George W. Jarman, M.D., Gynæcologist to the Cancer Hospital; Instructor in Gynæcology in the Medical Department of the Columbia University; late Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynæcological Society, etc. Second Edition. Revised and Enlarged. Illustrated with Sixty-four Full-page Photographic Plates and Eighty-six Illustrations in the Text. 6½ x 9½ inches. Pages xiv-461. Extra Cloth, $4.00 net; Sheep, $4.75 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

DISEASES OF THE EAR, NOSE, AND THROAT AND THEIR ACCESSORY CAVITIES. By Seth Scott Bishop, M.D., D.C.L., LL.D. Professor of Diseases of the Nose, Throat, and Ear in the Illinois Medical College; Professor in the Chicago Post-graduate Medical School and Hospital; Surgeon to the Post-graduate Hospital, one of the Editors of the Laryngoscope, etc. Second Edition. Thoroughly Revised and Enlarged. Illustrated with Ninety-four Chromolithographs and Two Hundred and Fifteen Half-tone and Photo-engravings. 6½ x 9½ inches. Pages xix-554. Extra Cloth, $4.00 net; Sheep or Half-Russia, $5.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

A Series of Nine Abdominal Pan-hysterectomies Performed in One Year for Uterine Fibromyoma. By F. A. L. Lockhart, M.D., Montreal, '98.——A Lecture on the Causes and Treatment of Harelip Delivered in the Post-graduate Course, June, 1898. By Francis J. Shepherd, M.D., C.M., Montreal.——On So-Called Functional Heart-murmurs. By Maude E. Abbott, B.A., M.D., Montreal. '99.——Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy. By George M. Edebohls, M.D., New York. '99.——The Relation of Movable Kidney and Appendicitis to Each Other and to the Practice of Modern Gynæcology. By George M. Edebohls, A.M., M.D., New York. '99.——The Hernia Guarantee and the Minimum of Confinement after Operations for Appendicitis, with and without Pus. By George M. Edebohls, A.M., M.D., New York. '99.——Chronic Appendicitis the Chief Symptom and Most Important Complication of Movable Right Kidney. By George M. Edebohls, A.M., M.D., New York, '99.——The Conservative Treatment of Fibroid Tumors by Myomectomy. By C. P. Noble, M.D., Philadelphia, '99.——Shall Absorbable or Non-absorbable Ligatures and Sutures be Employed in Hysterectomy and Salpingo-oöphorectomy? By C. P. Noble, M.D., Philadelphia, '98.——The Submerged Tonsil. By Edwin Pynchon, M.D., Chicago, '98.——The Technique of Tympanic

Inflation. By Edwin Pynchon, M.D., Chicago, '98.——The Differential Diagnosis of Pharyngeal Syphilitic Lesions and Diphtheria. By Lewis S. Somers, M.D., Philadelphia, '99.——The Influence of Turbinal Hypertrophy Upon the Pharynx. By Lewis S. Somers, M.D., Philadelphia, '99.

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Cyclopædia of the Year's Literature.

CONSTIPATION, INFANTILE.

Etiology.—C. G. Kerley[1] states that the comparatively long, large intestine folded on itself in a narrow pelvis offering an obstruction to the intestinal contents is thought by many to be the chief cause of constipation in infants. The lack of development of the muscular structure of the intestine is supposed by others to be the producing cause. The lack of nervous power due to an undeveloped sympathetic nervous system is thought to be an important factor. In all probability the agents referred to

[1] Med. News, June 17, '99.

may all be looked upon as predisposing factors, but he doubts if any one of them is ever an immediate cause of constipation. Casein in excessive quantities, a higher percentage than normal with normal fat, will cause constipation. A child fed on a milk containing normal casein and low fat will probably be constipated. Infants may be constipated on a perfectly modified milk because of the difficulty of digesting cows' milk casein; or it may be due to the heating of the milk to an excessive degree.

Treatment.—H. M. McClanahan[2] says that the real causes of infantile constipation may be conveniently grouped under two heads, viz.: (1) the quantity, quality, and method of feeding and (2) the anatomical condition of the colon. In the first group the question of regulating the diet is of the greatest importance. The character of the stools should be carefully noted, and when they are light colored and dry the casein should be decreased. Sometimes the addition of a teaspoonful of malt-extract to each feeding is of decided benefit. The general rule is to decrease the casein and increase the fat. When the discharges are coated with mucus, it is advantageous to prescribe the resin of podophyllin in doses of $^1/_{40}$ to $^1/_{25}$ grain. Another excellent remedy is a saturated solution of phosphate of sodium flavored with lemon-juice. In these cases massage of the abdomen and of the entire body is very useful. In the cases of the second class neither food nor medicine is of avail. By gentle manipulation with the finger in the rectum the folds of the rectum can be opened out. Injections are useful in these cases, and they are best given by passing a lisle-thread catheter through a cork into the bowel for about two inches, the cork being pressed against the anus while the injection is being given. This treatment must be continued for many months.

Among the breast-fed C. G. Kerley[3] thinks that the first step in treatment of constipation is to regulate the habits and life of the mother. The bowels must be evacuated daily with a laxative if necessary. She must be placed on a fresh meat, fresh vegetable, and cooked fruit diet; a malt liquor with luncheon or dinner is advised. She is instructed to take at least three hours' exercise daily in the open air. This *régime* will diminish the proteid, increase the fat, and not only relieve constipation in the child, but furnish it with better nourishment and a later weaning than would otherwise be necessary. The treatment of the mother will answer in a considerable number of cases, but when it fails the further treatment is with the child. The first step is to give cream. Not purchased cream, but cream which has been produced from the best milk obtainable. From $^1/_2$ to 2 teaspoonfuls in quite warm water is given immediately before nursing. The use of the gluten suppository at the same hour of the day for several days will do much to establish the habit of a passage at a certain time. In case the cream does not agree or is ineffectual, pure codliver-oil, 15 to 30 minims, three or four times daily, may be found useful. When the above means fail, medication will be required.

In the bottle-fed and in the "run-about" children the treatment resolves itself largely into a manipulation of the fat and proteid. Given a bottle-fed child six months of age, suffering from obstinate constipation, the proteids are at once cut down to a minimum by prescribing cream, water, and sugar mixt-

[2] Med. Rec., July 1, '99.
[3] Med. News, June 17, '99.

ure. For this purpose a 16-per-cent. cream is desired. The nurse or mother is instructed to allow the milk, which is delivered in bottles at about 6 o'clock in the morning, to rest in the refrigerator until 12 o'clock, when the cream is removed. If the milk is good the cream will contain approximately 16 per cent. of fat. The pint (16 ounces) is used for a standard. If one ounce of this 16-per-cent. cream is mixed with 15 ounces of water, a 1-per-cent. fat mixture will be obtained. If 2 ounces of cream are mixed with 14 ounces of water, a 2-per-cent. fat mixture will result; if 4 ounces of cream with 12 ounces of water, we will have a 4-per-cent. fat mixture. But the 16-per-cent. cream contains, besides fat, approximately 3.2 per cent. proteid and 3.2 per cent. of sugar. If, then, one is to prepare a food for a six-month, constipated baby, one should endeavor to give a high fat mixture, 4 per cent., with as low a proteid as possible. In order to do this, 4 ounces of cream and 12 ounces of milk are used. This would furnish a 4-per-cent. fat, 0.8-per-cent. proteid, and 0.8-per-cent. sugar. The fat is as high as one wishes it, the proteids low where they ought to be, and the sugar low, which is increased by the addition of milk or cane-sugar. In case the reduction of the proteid is impracticable or does not furnish relief, one may add to each feeding of the cream or milk mixture 1 or 2 teaspoonfuls of Mellin's food or malted milk. In older children, eight or twelve months of age, diluted cream with water is often given with oatmeal-jelly, 1 or 2 tablespoonfuls to each feeding. The cause of constipation in cases which resist this treatment is doubtless due to deficient peristalsis. In these infants medication is required.

In "run-about" children the use of cream-and-water mixtures, rare meat, green vegetables, stewed fruit, zwiebach, and bran biscuit renders the management of constipation exceedingly simple. The meals must be given at stated intervals, and crackers, bread, potatoes, and other coarse starches excluded. The more milk is heated, the more does it act as a constipating agent.

R. C. Moore[4] says that if constipated babies having white, lumpy discharges are given orange-juice they will be wonderfully benefited. Codliver-oil is also another very useful remedy in the treatment of infantile constipation. Cathartics are useless, and often injurious.

Lawrence[5] finds that when there is alternately diarrhœa and constipation the cause is usually due to an excess of proteids. Here it is useful to give essence of pepsin, 10 or 15 drops, after nursing, and also to resort to abdominal massage. An excellent plan to secure an action of the bowel at a regular time is by the insertion of an oil-paper suppository. The constipation of bottle-fed infants being commonly the result of a deficiency of fat in their food, the rational treatment embraces the addition of cream or butter. All forms of teas should be strictly prohibited, and in older children too much potato should not be allowed.

DIARRHŒA, INFANTILE.

Complication.—Koplik[6] finds nephritis in gastro-enteritis of infants is much more common than ordinarily supposed. In a gastro-enteritis, in which the kidney is only slightly involved, nothing may be found but a slight albuminuria. In the severer forms the patient is rest-

[4] Med. Rec., July 1, '99.
[5] *Ibid.*
[6] Med. Rec. Apr. 1. '99.

less, the intervals of restlessness being relieved by periods of a sort of stupor. Constant vomiting not relieved by gastric lavage regarded as often a manifestation of uræmia. In marked nephritic infection a form of œdema of the skin and subcutaneous tissues is present. In severe cases there is more or less complete suppression of urine. The nephritis may appear early or late. Its severity is not dependent on the severity of the primary disorder.

Prophylaxis.—Important though the question of treatment is, G. E. Cussen[7] regards the question of prophylaxis as the one of most account. In the large centres, at any rate, a well-salaried medical officer should be appointed, whose sole duty should be to attend to hygienic matters, and included among his duties should be the inspection of dairies and the houses containing boarded-out infants, and seeing that the hygienic surroundings are satisfactory. The officer of hygiene should inspect the milk and vessels containing it if necessary, and see that the former is free from micro-organisms and that the latter are clean. He should also see that the houses are properly ventilated and hygienically satisfactory. His duties should also comprise the inspection of dairies, and, if these duties were properly carried out, the death-rate from infantile gastro-enteritis would be very considerably decreased. In properly-managed dairies the cows should be healthy, and their udders and the hands of the milkmen well washed before milking. Cows should be well fed, and allowed only to drink pure water from a running stream if possible. In summer the milk should be at once placed in a cool chamber, and when delivered should be kept in a clean place of low temperature.

When it is realized that over 60 per cent. of the deaths in young children is caused by bowel troubles, every effort should be made to show how serious a menace it is, and how the mortality might be considerably minimized by proper State supervision.

Another matter that appears to require attention is the method of milk-supply. In a large city it is criminal that there is only one delivery per day, because during the summer months it is almost impossible, even with the most scrupulous care, to keep milk free from chemical changes, and when this precaution is carried out in a very prefunctory manner, as it is, in many of the homes of the poorer classes, the results are not difficult to foresee. During the summer months, at any rate, there should be a double milk-supply per day.

H. D. Chapin[8] asserts that too frequent feeding is a common underlying cause of infantile indigestion, and the giving of too large a quantity of food in the bottle is another factor. In hot weather fermentation of the food, added to the depression of the infant's vitality resulting from the heat, gives rise to summer diarrhœa. Infants under two years are the greatest sufferers, but preventive treatment, if properly carried out, would do much to mitigate this veritable scourge. Cleanliness of the city-streets and watchfulness of perishable food-products are important sanitary measures. If the dairy could be properly supervised and the milk delivered to the city consumer within twelve hours after milking, there would be very little summer diarrhœa. Another way that the city can help in this work is by providing parks and planting many shade-trees in the streets.

[7] Australasian Med. Gaz., May 20, '99.
[8] Med. Rec., July 1, '99.

Treatment.—In the management of summer diarrhœa C. G. Kerley[9] contends that whether the child is nursed or bottle-fed the first step is to discontinue the milk at once. The diet allowed must be of such a nature that it will be absorbed largely by the stomach, keeping the intestine empty and giving it as much rest as is possible. He prescribes barley-water, rice-water, chicken-broth, beef-juice, diluted 1 in 10, wine-whey, and the liquid peptonoids in barley-water. It is well to prepare three or four articles of diet and then alternate them. A very good scheme is to use barley-water as a base, with the addition of a teaspoonful of beef-juice or a teaspoonful of liquid peptonoids; with the barley-water may also be mixed a small quantity of chicken-broth.

The patients are fed every two hours if they require it, in quantities equal to that which they are accustomed to in health. White-of-egg mixture is looked upon with almost as little favor as milk. Upon resuming the milk diet, which may be allowed when the stools approximate the normal, care must be exercised that the child is not put on the customary strength at once. One may begin with $^1/_2$ ounce of milk to the feeding of 5 or 6 ounces of barley-water and increase $^1/_2$ ounce daily if it is well borne.

According to Milton P. Creel[10] patients suffering with enterocolitis should occupy large, well-ventilated rooms, and at no time should they be exposed to the sun's rays or be allowed in a room that is very warm, and they should always have apartments upstairs. These little patients should be taken out late in the afternoon and night for a ride in the open air. The children should not be burdened with clothes. Sterilized milk may oftentimes be assimilated, but very often it fails. Eskay's albumenized food, made up with fresh cows' milk, answers the purpose best. Opium is a remedy which is rarely, if ever, admissible. Calomel, in personal hands, has never proved beneficial, even after a large and conscientious trial. Salol exerts a most happy action on the course of this affection. It may be given alone or in a combination with the subnitrate of bismuth.

L. Emmett Holt[11] states that the most common mistake made in private practice is to temporize during the first few hours with a case of summer diarrhœa, the child not appearing to be very ill. The rule should be to stop food at once and completely. The condition is primarily one of acute intoxication; hence the stomach and intestine should be evacuated as soon as possible. Irrigation of the bowel in bad cases four or five times daily is of great value. The water should be at first at a temperature of 100° F. or a little higher. Before finishing the irrigation it may be well to allow the temperature to sink as low as 75° F. Instead of giving these children food they should be given small quantities of sterile tepid water at short intervals. Sterilized milk must be excluded in these cases.

In summer complaint in children L. Fischer[12] regards it as a safe plan to aid Nature by giving a large dose of castor-oil, and, if the same is vomited, to repeat the dose. Another valuable remedy is calomel. Whenever possible, it is wise to have the stomach thoroughly washed by using warm table-salt solution, and continuing this until the contents of the stomach flow away clear. This should

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[9] Med. News, June 17, '99.
[10] Med. Council, June, '99.
[11] Med. Rec., July 1, '99.
[12] *Ibid.*

never be done by anyone but a physician. In washing the bowel the process consists in taking a fountain-syringe, filling it with warm water, the temperature of which is 110° F., and adding a teaspoonful of table-salt to each pint of liquid used. The catheter used should be of soft rubber, of the proper size, and should be lubricated with sweet oil, vaselin, or glycerin; the point of the catheter should be gradually introduced and great care taken lest the mucous membrane should be irritated and bleeding ensue. Undue pressure by having the syringe at too great a height must be avoided by raising it only two feet above the child's body. When there is intense thirst, large draughts of sterilized water (boiled, cooling it by placing it on ice) should be administered. Cold tea, very weak, should also be given as a stimulant and to quench thirst. One of the most beneficial and grateful drinks is acidulated water made as follows:—

To a tumblerful of plain boiled and cooled water 5 to 10 drops of either dilute hydrochloric or phosphoric acid are added. The same can be sweetened by adding some glycerin (which is a powerful antifermentative) or some saccharin. The injection, hypodermically, of several pints of warm saline solution having the temperature of the blood is one of the most valuable means of restoring the circulation when children suffer from collapse. It is a safe plan to apply an ice-bag over the top of the head. A very strong mustard foot-bath at or about the time of applying the ice-bag to the head should be given. All kinds of food which are given at the time of the attack are to be discontinued; if milk has been given, the same must be discontinued and in its place a food more easily assimilated —as, for example, barley-water, rice-water, farina-water, sago-water, corn-starch-water, and arrow-root water—can best be given. These are usually made by adding a tablespoonful of barley, rice, or farina to a pint of water, boiling the same, and straining it and warming it immediately before feeding; it should be given in the same quantities as the child has been in the habit of taking prior to this attack, but at longer intervals. For example, if a child has been fed on 4 ounces of cows' milk and 2 ounces of barley-water, and the feeding was continued every three hours, then it is a good plan, during an attack of summer-complaint, to stop the milk and give only the barley-water, 6 ounces, and feed every four hours. During the interval, if the child is very thirsty, it is a good plan to give boiled water plain, or boiled water to which the white of a raw egg (albumin-water) and some salt are added, and, if the child is old enough, an occasional few drops of the expressed juice of meat, made by boiling a steak over a fire and expressing the juice in a lemon-squeezer or meat-press. When the infant's normal condition is again restored and all disease-symptoms have passed away, then one can gradually return to Nature's remedy: milk feeding.

It is a well-known fact that a child suffering from summer-complaint in the midst of a warm city will suddenly become almost constipated on being given a sea-voyage. Hence the importance of a change to the sea-shore at the first appearance of this disease. Cold sponging with sea-salt water and also cooling the spine by douching with several pitchers of iced water are beneficial and grateful. Cleanliness and change of clothes are of the most vital importance. The first point after properly cooling the body with bathing, sponging, and using either alcohol and water or some

perfumed toilet water, is to check perspiration. To do this effectively the child must be kept in a large, well-ventilated room, the temperature of which should be maintained at about 68° to 72° F. if at all possible. The room should be darkened, and all unnecessary noises and irritations are to be strictly avoided.

Children lie comfortably in hammocks, and, as these permit plenty of air to surround the patient, they are certainly advantageous. The bad habit of rocking the children should be avoided, as it is uncalled for and frequently promotes gastric disturbance ending in vomiting.

In fermental diarrhœa of children Joshua C. Hubbard[13] advises irrigation of the bowel. To carry out the irrigation one needs only a large-sized, soft-rubber catheter and a fountain-syringe. The catheter should be sterilized each time that it is used. The baby is placed in the lithotomy position, with the hips raised on a pillow. The catheter, free from air and full of the irrigating fluid, is introduced and the syringe held some three feet above the baby. There is no risk of rupturing the intestine, as the straining of the baby when it is uncomfortably full will force the fluid out around the catheter. Irrigation does good principally by cleansing, and therefore it is of slight consequence what fluid is used. Water or salt solution at a temperature of 85° to 90° F. may be used, but toward the end of the summer a weak solution of sulphonaphthol, followed by water, seems to give, perhaps, better results.

The catheter can, in most cases, be introduced its full length.

Stengel[14] says that in a certain class of summer diarrhœas of infants classified as enterocolitis, the most important part of treatment is the flushing of the colon and the use of tepid baths. A long catheter is passed into the bowel, and 1 or 2 quarts of water at a temperature of 85° or 90° allowed to flow into the bowel. Two or three douches may be required daily. Small doses of opium, not to check the diarrhœa, but to allay nervous symptoms, may be given in the early stages. The following prescriptions are of value:—

℞ Bismuth subgallat., 29 to 36 grains.
Pulv. opii, $^1/_2$ grain.
Pepsini, 6 to 12 grains.

M. Div. in pulv. No. 12.

Sig.: One every four hours, alternating with the following:—

℞ Hydrarg. chloridi mitis, $^1/_2$ grain.
Cerii oxalat., 2 grains.
Sacch. alb., q. s.

M. Div. in pulv. No. 12.

Sig.: One every four hours.

Koplik[15] regards the treatment of nephritis complicating gastro-enteritis as that of all severe forms of gastro-enteritis. A full and free supply of water through all possible channels is one of the most valuable means of cure. Stomach-washings and rectal irrigations should be daily employed. For the latter sterilized water, 1000; sodium chloride, 4; sodium carbonate, 3; at a temperature of 38° or 40° C. For rectal irrigation an adult-size stiff-rubber tube is used. The child is to be completely undressed, wrapped in a blanket, and the buttocks raised high. A quart or more of the solution should be used, considerable being left in the intestine. In very severe cases 200 cubic centimetres or more of normal salt solution, sterilized,

[13] Archives of Pediatrics, Apr., '99.
[14] No. Car. Med. Jour., Apr. 20, '99.
[15] Med. Rec., Apr. 1, '99.

should be used under the skin of the abdomen daily. The only stomach-medication to be employed is bismuth. Whether a nursling or bottle-fed baby, milk is to be stopped, and the child given albumin-water or beef-juice mixed with sterilized barley-water. Acorn-cocoa is of value. Warm baths with massage in the bath are useful. Strychnine, hypodermically, may be cautiously employed when need arises.

A. R. Kieffer[16] affirms that the best means of prevention of acute digestive attacks in infants is to properly feed them. No mother having a sufficient quantity of good milk to support her infant should wean a child less than one year old the first of May. If the child is to be one year old during the hot months, then it is all the more imperative that it be allowed to nurse till the cool weather of autumn. A milk attack of acute gastro-enteritis in an infant does not require any medication at all. The indications are to stop all the usual food and control its restlessness and what little fever it may have with sponge-baths, in the meantime supporting the patient and allaying its thirst with the white of an egg and common salt added to pure, sterile water in the proportion of 1 or 2 whites and $^1/_3$ teaspoonful of salt to a pint of water, which should not be allowed to get warmer than 60° F. This should be given, in teaspoonful or tablespoonful doses, every fifteen to thirty minutes.

In the more severe class of cases the fever should be controlled with the cooling bath. The temperature of the bath should be slightly under the normal temperature of the body at first and gradually cooled down to 90°, or possibly, if the patient stands it well, to 85° F. It should remain in the bath until the thermometer in the rectum shows a reduction to about 101° F. Until a good reaction takes place the patient should be well wrapped, after which it should be covered lightly. The bathing must be persisted in so long as the tendency to rise continues. Properly conducted, the sponge-bath is an efficient means to control the temperature; tepid water should be used. The patient should be stripped absolutely naked. The surface of the body, including the head, should be kept moist continually, and the patient frequently turned so that all parts of the surface will be exposed at short intervals. From fifteen to thirty minutes will be found necessary to cool the body down to 101° F.

All food must be discontinued, and the same means employed to allay the thirst and irritability of the stomach as in the mild class of cases. It is wise to give a dose of castor-oil or part of a Sedlitz powder. About one-third of a powder for an infant one year of age will be found sufficient.

Should the purging be excessive, deodorized tincture of opium may be added in 1- or 2-drop doses to the albumin-water, and be administered according to the indications. In cases accompanied by an extreme degree of prostration stimulants should be administered hypodermically, and, where the blood-volume has suffered, transfusion or hypodermoclysis should be resorted to. In order to rest the digestive tract, predigested food should be given. The following formula may be used for this:—

℞ Ext. pancreatis, 5 grains.
Sodii bicarb., 15 grains.

Sig.: Add a powder to a gill of warm water and shake; then add enough fresh milk to make one pint. Place in a water-

[16] No. Amer. Jour. of Diag. and Pract., June, '99.

bath as hot as the finger can be held in one minute without pain, and allow to remain till slightly bitter.

Milk thus prepared should be kept on ice and warmed to blood-heat before using, or else prepared in small quantities for immediate use. Peptonizing tubes can also be prescribed to be used.

The patient should be kept upon this food till all symptoms disappear. If near the close of the hot season in a bad case, the peptonized milk should be continued alone till cooler weather.

If the offending cause is still in the digestive tract, W. L. Stowell[17] gives one dose of castor-oil. In a child more than a year old, tinctura opii camphorata or tincture of opium may be added. Then the diet should be changed for twenty-four or forty-eight hours.

To a baby, egg-albumin and sweetened water, or beef-juice, not beef-tea, may be given. Another excellent drink is wine-whey, made by adding a glass of sherry to half a pint of hot milk. The sweetened whey may be taken cold without limit. If desired, the whey can be prepared with essence of pepsin.

When the stools are green, the best treatment is mercury with an alkali. Ten grains of hydrargyrum cum creta should be given at one dose, or $^1/_{10}$ grain of calomel and $^1/_2$ grain of bicarbonate of sodium every half-hour for ten doses.

If mucus is very abundant and surrounds small, flocculent masses or curds, the chief trouble is in the colon. If there are streaks of blood also, the rectum is involved: a colitis and proctitis. Babies with this form of diarrhœa have griping and tenesmus, with occasional prolapse of the rectum. All such cases should be given frequent intestinal irrigations of warm salt solution, one drachm to the pint. If it becomes necessary to keep the young infant off from milk for a considerable time, malted milk and Mellin's food are easily tolerated and may be used. These two foods are almost devoid of fat, and if they are to be used a long time cream must be added.

For a simple diarrhœa in a baby, bismuth, with equal parts of chalk mixture and mucilage of gum arabic, is to be given. To older children a little opiate is not harmful: *e.g.*, chalk mixture, mucilage of gum arabic, aromatic syrup of rhubarb, and paregoric, of each, $^1/_2$ ounce, a teaspoonful to be given after every stool.

When fermentation is marked, salol and bismuth are efficient, also resorcin and naphthalin. The best results are obtained by giving to the digestive tract complete rest, next change of food, then irrigation.

According to H. D. Chapin,[18] the milk should be pasteurized or sterilized and then placed on the ice. Diapers should be removed as soon as soiled and placed in a solution of chloride of lime. Babies are frequently too warmly clad. Day excursions to the sea-side are useful, but in considering them due weight must be given to the possible harmfulness of fatigue and improper care of the food taken on such trips. As the maximum heat occurs between the hours of 2 and 5 o'clock in the afternoon, it is often well to direct that the little ones be allowed to play in a bath-tub in tepid water for 2 or 3 hours during this hottest part of the day. Pasteurization or sterilization of milk is largely unnecessary, unless perhaps for a short time in very hot weather. During an attack of acute summer diarrhœa milk should be excluded, and very little nourishment given. Egg-water may be used. It can

[17] N. Y. Med. Jour., July 23, '98.
[18] Med. Rec., July 1, '99.

be made by stirring the white of a fresh egg in a glass of cold water, and to overcome the tastelessness it is well to add a few drops of aromatic spirit of ammonia. Thin gruels made from barley- or wheat-flour and cold whey are also useful substitutes for milk. When cows' milk has to be excluded for several days, mutton-broth with the fat removed will be found a useful addition to the diet. The resumption of milk must be tentative, and the milk given at long intervals and diluted five or six times with sugar-water. Astringents, antiseptics, and opiates are now but little used in the treatment of summer diarrhœa. A prerequisite to success is a thorough cleaning out of the intestinal tract. If there is much vomiting, draughts of tepid water may be given; and when rejected they will sufficiently wash out the stomach without resort to the stomach-tube. The bowel may be cleaned by the administration of tablet triturates of $^1/_{10}$ grain of calomel, given every hour for six or eight doses. Castor-oil is also useful. Irrigation of the lower bowel with decinormal salt solution favors elimination and secures the removal of mucus and fermenting milk. The drug found most useful is the subnitrate of bismuth every two or three hours. Small doses of aromatic spirit of ammonia stimulate the mucous membrane and refresh the infant. Alcohol should be given very sparingly in these cases, as it seems in most instances to diminish the digestive power. Of course, when there is great prostration free stimulation will be required. Opium should never be given combined with other drugs, and should never be given until the alimentary tract has been cleared out. When there is rapid peristalsis and profuse glandular secretion a few doses of opium are most valuable and will sometimes save life.

In subacute milk infection G. E. Cussen[19] orders all milk to be stopped. Instead he gives meat-broths, egg-albumin, and cold water. The child is to be warmly clad and, in suitable weather, sent out. The diapers are to be changed as soon as soiled and properly disinfected. Daily sponging of the infant and attention to the attendant's hands are also insisted on. When first seen, a dose of castor-oil or calomel is given, followed, if there is much pain, by a few small doses of opium. Personally good results have been obtained with salol in 1-grain doses every two or three hours to an infant one year or under. It may be combined with some salt of bismuth. If there is evidence of any gastric trouble, small doses of calomel, gr. $^1/_{20}$ every hour, are ordered, or hydrargyrum cum creta, with perhaps the addition of small doses of Dover's powder. If the stools are foul smelling, some bismuth preparation should always be given, and preferably the salicylate. Washing out of the bowel and stomach, too, is a rational part of the treatment in these cases.

Ashby[20] gives as the first indication for treatment the evacuation of the contents of the stomach and alimentary canal by washing out the stomach. If there is no vomiting calomel should be given in $^1/_2$-grain or 1-grain doses and repeated once. If the vomiting is troublesome, doses of from $^1/_5$ grain to $^1/_{10}$ grain should be given half-hourly. All milk must be stopped, and barley-water, white of egg in sugar-water, and chicken, tea, or whey given in small quantities at a time. Diluted brandy, if there is any appearance of heart-failure, should be given. Bismuth subnitrate in large doses, from 5 to 15 grains every two or three

[19] Australasian Med. Gaz., May 20, '99.

[20] Med. and Surg. Rev. of Reviews, Dec., '98.

hours, is useful. Washing out the large bowel by enemas of starch and boric acid by means of a soft, India-rubber catheter attached to a ball-syringe or funnel is useful; from 20 to 30 ounces may be injected and allowed to escape by the side of the catheter.

Eshner[21] has had good results in the treatment of acute gastro-intestinal catarrh of summer, attended with nausea, vomiting, looseness of bowels, tormina, and tenesmus, from the use of the following formula:—

℞ Extr. of hæmatoxylon, 2 drachms.
Aromatic sulphuric acid, 2 fluidrachms.
Spirit of chloroform, 6 fluidrachms.
Camphorated tincture of opium,
Compound tincture of cardamoms, of each, 1 fluidounce.

M. Sig.: A teaspoonful after each bowel movement.

Of one hundred and seventy-one children suffering from diarrhœa or dysentery who were treated with tannalbin by Waedemon,[22] only two died. Large doses give the best results. As much as 45 grains daily may be given babies and young children without the slightest inconvenience.

PROSTATIC HYPERTROPHY.

Varieties.—Ramón Guitéras[23] remarks that, viewed clinically, prostatic hypertrophies occur in three chief forms: 1. Uniform enlargement in all directions, with the general form of the gland preserved. These forms of hypertrophy do not reach so great a development as others and are more mild clinically. 2. Irregular enlargement. By far the greatest number of cases belong to this variety. 3. The third form occurs when all the gland is normal except in one small area, and is termed the localized variety. It is a very rare form. As the prostate hypertrophies, the orifice of the urethra becomes elevated, and the return-flow of blood from the vesical veins is impeded by pressure on the prostatic plexus. This results in imperfect evacuation of the bladder, and consequently in residual urine. Cystitis develops, due to irritation of the neck of the bladder from venous congestion. If the hypertrophy continues, the symptoms increase or are replaced by graver ones and there is dilation of the bladder, hypertrophy of the muscular and fibrous coats, and formation of diverticula; dilation of the ureters and pelvis of the kidney, congestion and catarrhal inflammation of the entire urinary tract, with an accumulation of the urinary and inflammatory products, and perhaps septic inflammation extending from the bladder to the kidney,—pyelonephritis,—resulting in chronic uræmia and death.

Treatment.—F. Kreissl[24] draws the following conclusions from the experience of his own cases and the reports of others. The efficiency of the galvano-caustic radical treatment can be explained by the peculiarity of the actual cautery, which, in all organs and tumors rich in connective tissue, does not only display an effect on the contact-surface, but also a remote one, so that every cauterized spot forms a shrinking centre for the surrounding tissue. The cautery, therefore, will reconstruct the normal calibre of the prostatic urethra, while in cases in which the projections form a bar between the urethra and the trigonum it will bring the bottom of the bladder to the level of the vesical outlet, or, so

[21] Practitioner, July, '98.
[22] Annal. de la Soc. de Méd. de Gand, lxxvii, p. 277, '99.
[23] Jour. Amer. Med. Assoc., July 1, '99.
[24] Memphis Lancet, July, '99.

to speak, artificially extend the urethra into the *bas-fond*. In the majority of cases the operation will have to answer both purposes. The success will depend on the condition of the bladder-wall and its contractile elements. Surgical means to relieve the distressing symptoms of retention will have to be employed only when conservative methods, after a reasonable time, have failed. Among these, Bottini's galvanocaustic radical treatment will be indicated in most of the cases. Castration might have its advantages in a limited number of cases in which the gland appears diffusely enlarged and soft, but in which no projecting nodules are found. But castration is a mutilating operation, repulsive to the patient, and uncertain in its results. Suprapubic puncture and perineal drainage give but temporary relief from embarrassment, and prostatectomy is expedient only in a few cases of pediculated lobes. Bottini's operation, even if it should only be partially or not successful at all, is harmless and not followed by a fistula, loss of the testicles, or hypostatic pneumonia, and, therefore, has to be considered the mildest surgical act in prostatic hypertrophy. As to contra-indications, only pyelitis, pyelonephritis, and such a general low condition of the patient that no benefit could reasonably be expected from any interference should be considered. If it should be absolutely impossible to pass a rubber catheter, one should not hesitate to perform suprapubic puncture, relieving the momentary distress, and as a preliminary step for Bottini's operation. The cases are many in which such a procedure resulted in reducing the congestion and swelling in the prostate, and a good-sized metal instrument could be passed through the urethra in a few days.

Meyer[25] has used Bottini's operation in the radical treatment of hypertrophy of the prostate in 12 cases. There were 6 cures, 2 marked improvements, 2 deaths independent of the operation, 1 death with the operation as the remote cause, and 1 as the immediate cause. Those classed as cures are:—

1. Cases in which patients are able to dispense altogether with the catheter and in which not a drop of residual urine is found after voluntary urination.

2. Cases in which the patients are able to get along without the catheter, but in which some residual urine is still found if the patient is made to urinate without having any desire for it; while when a certain amount of liquid—say, 180, 240, or 300 cubic centimetres—is injected into the bladder, it is afterward passed by the patient to the last drop, and the last few drachms of the injected fluid are squirted out in jerks, thus proving that the bladder is being emptied voluntarily to the very last drop.

Every patient with non-complicated prostatic enlargement is advised to submit to the galvanocaustic treatment as soon as resort to continued self-catheterization has become imperative.

In patients with very large, soft, and easily bleeding prostate, ligation of the vasa deferentia should precede by two or three weeks Bottini's operation. The operation should be preceded by cystoscopy, partly to determine the position in which the galvanocaustic knife should be placed, but mainly to detect the possible presence of a quiescent stone.

In regard to the operation it is most essential that the cuts should be made slowly, very slowly. The knife, when tested before starting the operation, ought to be almost at a white heat, not red hot as Bottini proposes, who oper-

[25] Med. Record, Jan. 14, '99.

ates with the bladder empty. Four cuts made at one sitting with the knife at almost white heat, and at angles to be determined by the cystoscope and rectal palpation, will best insure a rapid and successful issue, and thus avoid the necessity of a possible repetition of the operation. The latter would become necessary if after a certain time vesical drainage should not have become perfect as a result of the first interference.

If patients are able to empty the bladder soon after the operation, no matter how frequently the calls for urination may come, and if percussion does not show a tympanitic sound immediately above the symphysis as a sure sign that there is no retention, absolute non-interference is the best after-treatment. Vesical irrigation does not relieve the patients at all, if they should suffer after the operation. If the patient has a call every few minutes, and then is able to void a very few drops only under most intense and painful tenesmus, and this goes on day and night, and if in such instances catheterism is difficult and painful, the permanent catheter is indicated.

Ramón Guitéras[26] advises that the patient's general health should be improved, his bowels regulated, and his skin kept active by warm baths; his clothing should be warm. He should eat moderately and drink plenty of water. His urine should be kept in the best possible condition by the use of internal urinary antiseptics, as the benzoates, the salicylates, boric acid, etc. Oleum gaultheriæ, eucalyptus, and urotropin are also of great service. Locally, his bladder should be emptied by the catheter twice a day and washed out with a boric-acid solution; other antiseptic solutions, as permanganate of potassium, nitrate of silver, and borolyptol, being used at intervals. When the patient has been brought into the best possible condition generally and locally, an operative procedure can be considered, but an operation should never be performed until palliative means have failed. The mass of practitioners are now of the opinion that the operation by the Bottini galvanocaustic incisor is in most cases the quickest, the simplest, and the best. Freudenberg has made a modification of this instrument, which is the one usually used in Germany and this country. Castration, vasectomy, and iliac ligation are of very little benefit. The choice of operative procedure is between prostatectomy and Bottini. The former is by far the most difficult and dangerous; in fact, in the hands of a good genito-urinary surgeon in equally picked cases the mortality in prostatectomy would be found to be twice that of Bottini, and in the hands of the general practitioner it would be three times as great. There are certain cases suitable for enucleation and others only for the Bottini. Those for enucleation are the large, so-called glandular hypertrophies, where the prostate feels like a good-sized tumor by the rectum, and the urethra is felt to be much elongated and distorted by the hypertrophy. The cases calling for Bottini are more those where the hypertrophy is not marked, but where rectal examination shows a marked induration, and urethral examination shows middle-lobe impediment. The class of cases demanding this operation comprises those in whom there is nearly a complete retention of urine and the patient has to depend almost entirely on the catheter; also those with the tenesmus and irritability of the bladder so great that catheterization and washing out of the bladder

[26] Jour. Amer. Med. Assoc., July 1, '99.

are not able to relieve it; again, when the cystitis is very marked or troublesome, and when hæmaturia is a frequent symptom. An increasing amount of residual urine is another urgent cause, or when catheterization is followed by hæmorrhages or bad attacks of cystitis. The cases in which it is contra-indicated are where the kidneys are badly diseased, medically or surgically, or where arteriosclerosis is marked and where the heart-action is weakened through valvular or fatty changes. Nitrous-oxide gas has been personally given in a number of cases. The patient is put under quickly and comes out almost immediately. The patients have at times been kept under its influence for over two hours. It can be given on a full stomach.

According to Moritz Popper,[27] the faradic current is more healthfully stimulating to the prostate than the mechanical method of massage. In acute cases it lessens hypertrophy and cures the weakness of the compressor muscles.

SCARLET FEVER.

Return Cases.—The causes producing "return" cases of scarlatina are thought by J. Wright Mason[28] to be the following: 1. Imperfect disinfection of the clothing of the first patient. 2. The retention of the poison in the skin or throat, or most often in the discharges from the throat, nose, or ears. 3. Infection contracted before leaving the hospital by patients admitted for other diseases.

C. Killick Millard[29] has analyzed 4810 cases of scarlet fever discharged from the Birmingham City Hospital. Of these 4810 patients, in 158 cases the return home was followed at varying intervals of from a few days up to six weeks by a fresh outbreak of scarlet fever, resulting in the admission to the hospital of 171 so-called return cases. This is a percentage of 3.4 infecting cases, or 3.7 return cases. A return case is any patient coming to the hospital with scarlet fever from a house to which a patient discharged from hospital has recently returned. The principle was to count all cases, and to do this it was found necessary to extend the duration of the interval to six weeks. Practically no cases occur later than this. In return cases the type of the disease is somewhat more severe on an average and they are more fatal than when contracted in an ordinary manner. Out of the 171 cases returned, 13 were fatal, or a case mortality of 7.6 per cent. as against 4.8 per cent. for "all cases" during the same periods. At the Birmingham City Hospital before patients were allowed to return home all cases were detained for a minimum period of six weeks, counting from the onset of their illness, not from the day they came to the hospital. At the appointed time the patients going home are taken to the "bathing-out" pavilion, where the following special rules have to be observed:—

Bathing-out Rules.—1. The bathing-out to be commenced immediately upon receipt of the patient's clothes, and to be performed as quickly as possible compatible with thoroughness and care.

2. If insufficient clothing is brought, or if the nurse considers it unfit for wear, she must at once inform the matron.

3. The patient's own clothes to be kept carefully separated from the infected ones worn at hospital.

4. Each patient to have a clean bath-sheet.

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[27] Wiener med. Blatter, Jan. 26, '99.

[28] Public Health, Apr., '98.

[29] Brit. Med. Jour., Sept. 3, '98.

5. The bathing-out nurse to wear clean apron and sleeves.

6. "Izal" to be added to the water until it becomes distinctly milky.

7. Carbolic soap to be used and the patient washed all over with it.

8. The head of each child to be rubbed with carbolic oil after the bath.

9. The hair of each adult must, after the usual washing, be dipped in 1 in 1000 formalin: in the case of a woman this should be done and the hair dried before the bath is given.

10. The nose and ears to be syringed out, if this has not already been done in the ward, with 1 in 2000 formalin.

11. No patient to be handed over to friends until the hair is quite dry.

12. Every patient to be seen by the medical officer on duty after bathing.

13. The nurse to at once report anything about the patient which she may discover and which is not noted in the "Discharge Register."

14. Every patient to have a hot drink and something to eat before being handed over to the friends.

The final disinfecting bath having been given, the patients are again examined before being handed over to the friends. It is very probable we shall find that it is usually in the nasal cavity that the organism of scarlet fever most readily finds a lodgment in those cases where the infection is unduly prolonged. In the meantime it is to the condition of this cavity that we must pay most attention in examining patients with a view to pronouncing them free from infection.

Angina of Scarlet Fever. — Hirschfield[30] has studied one hundred and sixty-six cases of scarlatinal angina. They were divided into three groups: The first group comprised fifty cases, in which the angina was slight, and appeared under the form of isolated or confluent *plaques* upon the tonsils, and sometimes invading the uvula and pharynx. The false membrane was distinguishable from that of diphtheria by its viscid consistence and its feeble adherence to the subjacent tissues. The submaxillary ganglia were frequently swelled. This angina exercised almost no influence upon the general state and the morbid phenomena belonging to scarlatina. Appearing ordinarily from the first to the third day, it was over in from ten to fifteen days. Treatment was purely symptomatic and not local. All the children recovered.

In the second group, designated as the malignant form of scarlatinal angina, prognosis was very grave. Of twenty-seven children presenting this form of the complication, not one recovered. The angina was present at the onset or appeared from one to four days after the beginning of the disease. The false membranes extended rapidly, the breath became fœtid, and sanious fluid came from the nostrils. The swelling of the ganglia was enormous, and reached the clavicles, but yielded no pus upon incision. Other manifestations of septicæmia were suppurative otitis, purulent conjunctivitis often with panophthalmitis, suppurative arthritis, bronchopneumonia, hæmorrhagic nephritis, and catarrhal or pseudomembranous enteritis.

In the third group of eighty-nine cases the pseudomembranous angina was more chronic in its course. It began as a pseudomembranous angina or as a catarrhal angina, later becoming membranous, the main disease following its regular course. At the end of the first week the fever recurred, and otitis, synovitis, or erysipelas might be found, but more frequently a new swelling of the

[30] Jahrbuch f. Kinderh., B. 44, s. 237.

submaxillary glands developed. With this the throat, which was usually clean, became affected again within twenty-four or forty-eight hours and the malignant form developed, to which the child sometimes succumbed.

Urine of Scarlet Fever.—M. Hemser[31] gives the following as the result of his observations made as to the occurrence of peptonuria in scarlet fever: 1. The urine in scarlet fever very frequently contains peptones; they are usually present in a moderate degree, and are rarely abundant. 2. Peptonuria is not necessarily associated with albuminuria; both may be present at the same time, but the conditions are independent. 3. In cases complicated with pneumonia, peptones were seldom found in the urine, and if present their appearance was noted on the third day of illness, and they entirely disappeared as soon as the crisis ensued. 4. The severity of the disease has no bearing whatever upon the occurrence of peptonuria. Hence the prognostic value of peptonuria is doubtful. 5. In all the cases there was constantly present inflammation of the inner ear and the lymphatic glands, with tendency to pus-formation. 6. Ervant's test (potassic mercuric iodide) often failed to produce the characteristic precipitation where peptones were proved to be present in the urine by other tests; on the other hand, it formed a precipitate when peptones could not be detected. 7. Schulter's statement that the production of peptonuria is greatly influenced by high temperature is discredited. No such relation between high temperature and peptonuria could be made out.

Treatment.—When the type is mild, J. B. Taylor[32] recommends but little medication; in fact, none in the majority of cases. In the severe forms sustaining the patient is the main treatment. The bowels should be kept open, preferably with mild laxatives. For the excessively high fever, the bath is the best and safest. In case it should not bring down the temperature after a fair trial, phenacetin or acetanilid will usually promptly reduce it; but neither of the above depressants should be given continuously. The following prescription by J. Lewis Smith is one of the best for preventing debility following the fever:—

℞ Potassa chlorate, 2 drachms.
Ft. sol. et ad
Tr. ferri chlor., 2 drachms.
Simple syr., q. s. ad 4 ounces.

Sig.: Half teaspoonful every hour or two for a child of three years; double the dose after five years of age.

The physician should treat each condition as it may arise.

R. B. Gilbert[33] asserts that not only should the patient be isolated, but pet dogs and cats should be excluded. Anointing the skin with lard, vaselin, or lanolin proves soothing and antipyretic, at the same time it very materially diminishes the spread of the infection during the stage of desquamation. The clothing and bedding should be disinfected by boiling or by exposure to live steam. The coal-tar antipyretics should not be used because of their depressing action on the heart. As the full bath is also often attended by considerable depression, it should not be used except when the fever is very high and there is very active delirium. The nervous excitement is best allayed by the administration of chloral-hydrate. Opiates should be avoided because of the danger

[31] Vratch, No. 1, '99.
[32] Med. Council, June, '99.
[33] Phila. Med. Jour., July 1, '99.

of nephritis. The patient's strength should be sustained by a generous liquid diet and the anæmic controlled by doses of iron ammonia citrate.

Quayle[34] advocates the use of lithia-water and the flushing out of the bowel with water in order to stimulate the renal function.

Slagle[35] says that cold water should be the chief therapeutic agent in scarlatina: cold drinks, cold enemas, and cold packs. Antipyretic drugs, quinine, and iron should be avoided.

Ewing[36] favors an eliminative treatment. The patient should be urged to drink water freely and potassium acetate should also be given.

Garrison[37] has used acetanilid very freely during eight years, and has come to look upon it as her main reliance in the treatment of scarlet fever. The only unpleasant effect that she has ever noted from its use was a diminution of the renal secretion, and this has been completely obviated by combining the acetanilid with soda bicarbonate.

Solomon[38] thinks that acetanilid is useful for relieving the severe headache and the joint-pains, but phenacetin is better when much muscular pain is complained of. If the pulse denotes high arterial tension, antipyrine should be prescribed; no harmful effects from it have been noted, even in the youngest infants, if given in doses of $^1/_4$ grain. To relieve internal congestion, particularly of the kidneys, a decoction of scoparis, and also such cholagogues as cascara and sodium phosphate, are of value.

Jurgensen[39] values cold baths in scarlet fever. The baths should be given from the time of invasion to the end of the disease. As soon as the temperature reaches 102 $^1/_2$°, a bath, the temperature of which is 80° or lower, which lasts for about five minutes, is given. Children advanced in years may have even colder baths with advantage. The baths may be repeated every four or five hours. Where the physician fears that the shock to the patient will be disadvantageous, warm baths may be used, the temperature being as high as 100° to 106°, and, at the same time that active frictions are applied, cold affusions should be made to the head and shoulders. The following are contra-indications to the baths in this disease: Feebleness of the heart or existence of appreciable myocarditis, difficult respiration due to stenosis of the air-passages, epistaxis or hæmophilia, and inflammations of the joints. Where scarlatinal nephritis is to be treated, hot baths at about 100° to 102° or hot packs may be used to advantage to relieve the kidneys.

For local treatment in the pseudomembranous anginas of scarlatina, Hirschfield[40] advises interstitial injections of a solution of carbolic acid of 3- or 5-percent. strength, half a Pravaz syringeful of the solution being injected twice daily into each tonsil.

In the fœtid diarrhœa of initial stage of scarlatina Filatov[41] recommends the following:—

℞ Magnesii sulphatis, 1 drachm.
Acidi sulphurici, 1 drachm.
Aquæ distillatæ, 6 ounces.
Syrupi, 1 ounce.

M. Sig.: A teaspoonful or tablespoonful, according to the child's age, from hour to hour.

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[34] Phila. Med. Jour., July 1, '99.
[35] *Ibid.*
[36] *Ibid.*
[37] *Ibid.*
[38] *Ibid.*
[39] Blätter f. klin. Hydrotherapie; Revue de Thér. Medico-Chir., Feb. 1, '98.
[40] Jahrbuch f. Kinderh., B. 44, s. 237.
[41] Jour. Amer. Med. Assoc., July 1, '99.

SEASICKNESS.

Etiology. — William Edgar Darnall[42] thinks that the seat of the trouble does not lie in the stomach itself primarily, but that the vomiting is a reflex phenomenon. It is not a disease, but the symptom of a condition. A cause which seems rational is the disturbance of the sense of equilibration, the organ of which is situated in the petrous portion of the temporal bone. The small breakers hardly affect the large boat at sea, but the regularity of the heavy swells, over which the steamer deliberately rides, settling itself again for the next one, is what upsets the passenger. When this motion has continued for awhile it becomes so disagreeable that the passenger is no sooner safely over one swell till he begins to wait in dread for the onset of the next. After awhile the motion of this wave, with its regular rhythmical intervals, becomes transmitted to the endolymph of the semicircular canals. This continual flowing in a given plane overirritates the fine, hair-like terminals of the vestibular nerve in the labyrinth, and reflex impulses are sent therefore to the vomiting centre, which, with the nuclei of the eighth nerve, also lies in the fourth ventricle. There follows obstinate vomiting associated often with great prostration, from which there is very frequently no relief until the sufferer has landed.

Goble[43] says that undeniably seasickness always begins with a sensation of vertigo, pallor, frontal headache, disturbed respiration, and cold chills preceding the nausea and vomiting. Nevertheless, these same symptoms are often produced on land by the moving train, etc. The vertigo appears to follow the sensation of the loss of equilibrium. The sailor moves his body with the ship, adapting his body to the most extreme movements of the ship. In a general way, people are more often sick on a screw-steamer than on a wheel-steamer. The pitching is more difficult to bear than the rolling of a ship. Women are more often subject to seasickness than men, and children less than men. The heat, the lack of air, the emanations from the kitchen of the ship or from the engine, etc., are only occasional causes.

Treatment.—An editorial[44] states that the general health is of first importance; prospective travelers will do well to go on board rested in body and with the gastro-intestinal tract not disordered by the banqueting and wine that often celebrate the evening before departure. A thorough hepatic purge is of decided value. Bromides tend to depress the nervous system and disorder the stomach, both of which effects tend to produce rather than prevent the sickness. Probably the factor of greatest importance in causing seasickness is the steamship with which one sails. Persons who suffer intensely if they cross on the long, narrow, ocean greyhounds, which roll with every swell and pound the ship into constant motion with their powerful engines, are able to cross with slight, if any, discomfort on the heavily-laden, broad-beamed, slow-going boats which are now so commonly well fitted for the comfort of the passengers as well as carrying freight. Travelers who are subject to seasickness should choose the most favorable season of the year (spring or summer) in which to cross; they should select state-rooms and deck-quarters in the middle of the ship where there is usually least motion; they should keep in the cool air on deck with pleasant companions, and should move

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[42] Jour. Amer. Med. Assoc., March 11, '99.
[43] No. Car. Med. Jour., Aug. 5, '98.
[44] Phila. Med. Jour., July 1, '99.

about as little as possible until accustomed to the ship's motion.

H. Taylor[45] says that the nausea and subsequent vomiting of the first few hours are to a passenger prone to this malady almost inevitable, but seldom require interference, though the retching may become distressingly violent. The best way of relieving this condition is to apply a mustard-leaf to the epigastrium, to give an hypodermic injection of morphine, some crushed ice to suck, and to insist on the recumbent posture's being maintained. A whiff of amyl-nitrite or chloroform is often useful; alcohol is best avoided, though a little iced champagne may be sipped in very small quantities. Constipation must be relieved by enema or suppository. The urgency of the symptoms usually abates in from twelve to forty-eight hours. The cases of prolonged nausea and seasickness in which the patient refuses or rejects all food do better in their berths than on deck. Hot bottles, blankets, a little stimulant, or hot beef-tea will quickly make the patient more comfortable. For general fluid nourishment Valentine's or Wyeth's beef-juice may be used or Brand's essence. These will be frequently retained, especially if the first two are mixed with a little powdered ice and administered in teaspoonful doses. If rejected they should be given again directly the vomiting is over. As regards drugs, a mixture of chloroform, nux vomica, and compound tincture of lavender proves quite successful. An alkaline stomach mixture with nux vomica is also useful after the acute symptoms have vanished. A dose of potassium bromide and chloral or an hypodermic injection of morphine is beneficial at night. The farewell dinner or other jollification the day before commencing a sea-voyage is, to a person subject to seasickness, the very worst possible preparation for it. A blue pill followed by a Sedlitz powder is far better.

In the treatment of seasickness E. K. Losee[46] says the remedies that have seemed to be the most efficacious are the nerve-sedatives, and of these the bromides are the best. Chloral is another very good drug and may be used alone or combined with bromide in doses of 10 to 20 grains three times daily. However, the proper treatment of a case begins before the patient goes to sea. He should be perfectly rested and free from the worry of final details. Then if he relies on the bromides their exhibition should be commenced one to three days before sailing, in doses of 20 to 30 grains three times daily, until mild bromization is effected, and upon the sailing day a still larger amount should be taken. Bromides should not be taken in excess, and the bromide of sodium is the best preparation. A few drops of chloroform on sugar will sometimes relieve vomiting. Tincture of capsicum, well diluted, is another good drug. Alcohol should be avoided unless in a stage of exhaustion during the latter part of the attack. Salines are not to be taken for constipation, the best laxative being compound licorice powder in full doses.

P. K. Taylor[47] relies, in nervous cases, chiefly on morphine and atropine, given by preference hypodermically, and on calomel and Rochelle salts for disturbed digestion. Cocaine will sometimes overcome nausea if given by the mouth, and caffeine may be given for the headache. The bromides should be avoided, as they do more harm than good usually; but it is to be remembered that some patients

[45] Lancet; Amer. Med.-Surg. Bull., Dec. 10, '98.

[46] Med. Rec., May 13, '99.

[47] Jour. Amer. Med. Assoc., Mar. 25, '99.

tolerate the bromides better than others, and in these they may be of distinct value. The breathing should be regular and not in rhythm with the motion of the vessel. When a ship is pitching persons instinctively hold their breath as the vessel sinks into the hollow of the sea. This leads to clonic muscular contractions of the diaphragm, which, if not speedily checked, will lead to emesis. It is best to let patients choose for themselves to a great extent regarding diet; what will do admirably for one is just what another cannot tolerate. Liquids should be restricted in amount. Solids, like toast, or dry unsweetened biscuits with a little iced champagne, or brandy and ginger-ale, are less likely to be rejected by the stomach than are the usually-administered beef-tea and chicken-broth. The value of fresh air on the deck should not be too much insisted upon. A day or two in bed with restricted diet is often of more benefit than fresh air secured at the expense of one's reserve-fund of energy.

W. E. Darnall[48] says that but little success will be attained through efforts directed to the stomach, for, as long as the patient is on board and the ocean swells, the wave-motion is transmitted to the endolymph, and those susceptible to the reflex irritation suffer. Attention should therefore be given to the nervous condition of excitability rather than to the stomach.

Bright-red spectacles, accompanied by the internal use of calomel, furnish a new German specific against seasickness, which is due to a lack of blood in the brain, while (according to Epstein's investigations) the effect of red is to send blood to this organ. By looking at one point for some time through red glasses the patient is cured.[49]

Willis Cummings[50] has found that phenobromate is most valuable in alleviating and curing seasickness, particularly in those who, coming from the tropics, have "weak stomachs."

For patients suffering from seasickness Barber[51] recommends the following:—

℞ Chloroform,
Tinct. nux vom., of each, 10 drops.
Comp. tinct. lavender, 1 drachm.
Water, 10 drachms.

M. Sig.: A teaspoonful to be taken every hour until the vomiting and nausea have subsided, care being taken to shake the bottle each time.

Morel Lavallée[52] has been successful in curing the vomiting of seasickness by giving the patient a teaspoonful of the following mixture every half-hour:—

℞ Menthol, 1 part.
Cocaine hydrochl., 2 parts.
Alcohol, 600 parts.
Syrup, 300 parts.

Goble[53] notes four cases, all very susceptible to seasickness, who, after some sittings for hypnotic suggestion prior to a voyage, became free from it, and were able to travel without seasickness.

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[48] Jour. Amer. Med. Assoc., Mar. 11, '99.
[49] Med. Rec., May 6, '99.
[50] Med. Council, June, '99.
[51] Practitioner, Oct., '98.
[52] *Ibid.*
[53] No. Car. Med. Jour., Aug. 5, '98.

ABDOMINAL PALPITATIONS.

Etiology.—It seems reasonable to conclude that in the case of abdominal palpitations appearances are not deceptive. That whatever may be the state of somatic circulation, tested as it commonly is by the radial pulse, the abdominal circulation, as regards its aorta and probably other arteries, is in a state of high tension.

The relation of the state of the aorta to the functional disorders of other organs is not quite certain. It may be that it causes them, or, on the other hand, it may be that they cause it. Possibly the relation may be in some cases the one, and in others the other.

Treatment. — Nitroglycerin should be given in these cases. It may be taken during the attack, but it is better to give it once or twice a day, or, if needful, more often. A small dose will generally be found sufficient to affect the disorder. One one-hundredth of a grain every night is often sufficient.

But if, as the palpitations subside, the other symptoms remain, it will be necessary to attend to them. However, it is surprising how the equalization of the circulation affects the other miscellaneous symptoms in many instances. W. Wade (Brit. Med. Jour., June 17, '99).

ALCOHOL, INFLUENCE OF.

Experiments to determine whether more work can be accomplished with alcohol than without. The results obtained were uniform, and clearly showed that:—

1. Alcohol has a favorable effect on the work-product whether the muscle is weary or not.

2. This favorable effect appears almost immediately, but is very transitory.

3. Immediately afterward alcohol has a very decided paralyzing effect. About a half-hour after taking alcohol the muscular power reaches a maximum that subsequent doses increase with difficulty.

4. The paralyzing effect of alcohol outweighs the momentary stimulation; so that the total work-product obtained with the use of alcohol is less than that obtained without it. In other words, alcohol is a deceptive means of dulling the sense of fatigue, but its action is momentary, and in the end injurious; the paralyzing effect upon the nervous system increases rapidly, and with such force that any momentary good effect cannot counterbalance it. Similar experiments with tea, coffee, and kola showed that the stimulating effect of these drugs, while less marked than that of alcohol, is continued longer, and is not followed by a paralyzing effect, as is the case of alcohol. Destrée (Quar. Jour. of Inebr., Jan., '99).

ANESON.

Aneson is preferred in the infiltration anæsthesia of Schleich and the regional anæsthesia of Oberst. This is the watery solution of trichlorpseudobutyl-alcohol, or acetone chloroform. One- or 2-per-cent. solutions equal in anæsthetic power about 2-per-cent. solutions of cocaine. The solution is permanent. The advantages are: 1. The original preparations are used without dilution to various strengths, and the remedy acts even in severely-inflamed tissues. 2. In point of harmlessness it is superior to all hitherto-known remedies for local anæsthesia. 3. The secondary pains of infiltration anæsthesia are not observed when this remedy has been employed. 4. It is equally useful when employed according to the

method of either Schleich or Oberst. Masbachen (Münch. med. Woch., No. 3, s., '99).

ANGINA PECTORIS.

The tension of the vascular system is to be relieved by inhalation of nitrite of amyl, and, if pain persists, a few whiffs of ether should be given. Morphine should not be continually used, because of its resulting depression, and if given should always be combined with atropine, which is an excellent analeptic. Camphor, also, is one of the best of the cardiac stimulants. Irritation, in the way of sinapisms, etc., to the precordia eases the distress. The ice-bag or very hot applications have the same effect. The kidneys, skin, and respiratory functions should be kept active. In the interval nitroglycerin or nitrate of sodium and iodide of potassium should be used, and the doses should be pushed to tolerance. Good results are obtained from the baths as recommended by the Oertel method or as carried out by Dr. Schott, of Nauheim. A saline bath at the temperature of 92° and reduced 5° or 6° in the course of the treatment has many of the good effects of the Nauheim bath. It is well in ordering the bath to see that the patient is gently massaged, and while in the bath, which should last not longer than ten to fifteen minutes, that slight restraint be given to the flexion and the extension of the limbs and body, which the patient is directed to follow. To obtain any measure of success in the treatment all excesses of every kind must be corrected and the general functions of the body made to act properly. J. D. Morgan (Jour. Amer. Med. Assoc., July 1, '99).

ANKYLOSIS, FALSE.

Galvanic Treatment. — All cases of false ankylosis of traumatic origin are benefited, more or less, by the galvanic current; the sooner treatment is commenced, the sooner, more rapid, and greater the effect. The gain is permanent. In cases of disease the result is uncertain as to increase of motion, but pain is alleviated, and swelling, whether due to infiltration of the soft parts or present as an infusion into the joint, is reduced. Ankylosis due to gout is least affected of any. All cases, whether of injury or disease, will, if the treatment is to be effectual, show an improvement during the first two or three applications. It is superior to the hot-air treatment in that there is an electrolytic action, and it is not accompanied by danger of burning the skin. Frederick W. Gwyer (Annals of Surg., May, '99).

CARBUNCLES.

Treatment.—Ecthol, both for internal medication and as an external application, has been found of value in carbuncles. It is given internally in doses of a teaspoonful every two hours, until the healing has been completed, the interval between the doses being gradually prolonged. The local treatment consists in free incision and thorough evacuation of the pus-cavity by scraping. The wound is then carefully cleansed with peroxide of hydrogen and dressed with absorbent cotton saturated with ecthol. This dressing should be changed every four to eight hours. Creel (Cincinnati Lancet-Clinic, Apr. 29, '99).

CATHETER-FEVER.

Sepsis and nervous conditions determine the production of catheter-fever, and neither alone will account for all the conditions noted in these cases. The following rules are regarded as absolutely necessary in the prevention of these complications:—

An instrument should never be used until the urine has been rendered apparently sterile by the use of such agents as salol, boric acid, or, perhaps best, urotropin. One should always be sure that instruments are absolutely sterile, for, although many instrumentations are done with sounds simply washed in hot water and perhaps rubbed down with a sterile cloth,—often without the slightest ill effects,—it is preferable to use none but boiled instruments. A sound should never be passed into the bladder if the stricture is in the anterior urethra alone, as the passage into the bladder certainly increases the danger of septic absorption. A. M. Forbes (Montreal Med. Jour., May, '99).

CLUB-FOOT.

The following are the conclusions reached in regard to the prognosis and treatment of club-foot:—

1. The prognosis in ordinary non-paralytic club-foot is good.

2. In children restoration to form should be perfect, and function should closely approximate the normal.

3. Restrictive methods, either by dressings or apparatus, should be as little employed as possible.

4. Persistent manipulation improves function and development.

5. Operative treatment must be thorough. No part of the correction of deformity should be left, with the hope that mechanical means will complete the work.

6. Intelligent and long-continued after-treatment is essential to a final good result. Properly-constructed boots should be worn and the foot retained in the corrected position at night.

7. Age is no bar to successful treatment. Eminently satisfactorily results may be obtained in adult life. Even in the case of adults the more heroic methods of operation in many cases are not called for.

8. The prognosis in paralytic cases will vary according to the nature and degree of paralysis. B. E. McKenzie (Can. Jour. Med. and Surg., May, '99).

COCAINE ANÆSTHESIA IN ABDOMINAL SECTION.

An abdominal section was successfully performed under cocaine anæsthesia for retroverted adherent uterus in a case with marked cardiac symptoms and goitre. Owing to the general condition of the patient it was thought better to employ local anæsthesia. Eight minims of 5-percent. solution of cocaine having been injected beneath the skin, an incision was made in the median line down to the muscle-sheath. Eight minims more were injected at different points along the median line into the muscular structures and the incision was then carried into the peritoneal cavity. The adhesions binding the uterus down to the rectum were then separated without any apparent discomfort to the patient. But even slight traction upon the ovaries seemed to produce considerable pain. The uterus was brought forward and stitched according to the ordinary suspension method. The peritoneum was closed by means of a continuous catgut suture. The patient made an uninterrupted convalescence. Hunter Robb (Cleveland Med. Gaz., Feb., '99).

CORYZA.

Treatment.—Coryza can be aborted by using locally a solution of belladonna tincture (B. P., '99) in water. The strength used is 1 drachm, or $1\frac{1}{2}$ drachms, in 1 ounce of water. It is used as follows: The nose having been well cleared out with an irrigator containing

about a dessertspoonful of the solution applied to one nostril, the other nostril and the mouth are closed, and, while gradually raising the distal end of the irrigator, a long inspiration is made until the air, in bubbling through the solution, carries with it a coarse spray. Afterward the other nostril should be sprayed in the same way, and then, having well cleared out both nostrils, the process is to be repeated. Thereafter the coryza will cease if the treatment has been commenced on the first or second day of the attack. In cases of longer standing it may be necessary to repeat the application more than once or twice. When the coryza has lasted already for some time, and, consequently, the mucous membrane has become thickly coated with a tenacious mucus, it is necessary to remove this accumulation by irrigations of alkaline solutions (sodium bicarbonate with sodium biborate, etc.) before using the belladonna. W. E. Burton (Brit. Med. Jour., June 10, '99).

CREDÉ'S SILVER OINTMENT.

Credé's silver ointment has been found valuable in puerperal sepsis. The preparation of silver which is employed is not a salt of silver, but is soluble, uncombined metallic silver made into an ointment 15 per cent. strong. Forty-five grains of the ointment contain about $4\frac{1}{2}$ grains of pure silver. This ointment has been used once in twenty-four to thirty-six hours in acute and in chronic cases twice daily. It is rubbed into the body at some distance from the point of infection, and should be thoroughly carried into the skin and subjacent tissues. Results of the treatment are immediate improvement in the symptoms, beginning within from three to ten hours. In a personal case of septic absorption, when patient's condition was critical, between 1 and 2 drachms of Credé's silver ointment was rubbed into the inner surface of the thigh, and repeated on the following morning. A rapid and marked improvement followed, the patient's temperature falling to normal and her pulse gradually improving. Five days afterward there was again fever and rapid pulse, when two inunctions were given twelve hours apart. After this inunctions were given daily in small quantity for four days, and then at intervals. Altogether about $1\frac{1}{4}$ ounces of the ointment were employed. Patient made a good recovery. Jones (Obstetrics, No. 2, '99).

CYSTITIS.

Treatment.—In the treatment of cystitis the constitutional as well as the local symptoms should receive the most careful attention. During the acute attacks the patient should be encouraged to take large quantities of water. All articles of diet—as asparagus, etc., that act more or less as irritants to the bladder—should be left from the diet-list. The bowels should be moved with a saline cathartic, Epsom salts being the best, and the patient placed in bed if the case is a severe one. Opiates should be avoided as much as possible. The bromides, chloral, cannabis Indica, or sanmetto in teaspoonful doses every four hours may be given for pain. In the very acute cases the bladder should not be treated locally, but, if the disease is first seen in its chronic or subacute stage, then most cases require in addition to the constitutional treatment a careful application of local remedies. This is best carried out by inspection through the cystoscope. As a local application a 20-grain solution of protargol three times a week is valuable. If the cystitis is of a gonorrhœal origin, nothing acts better than a saturated watery solution of picric acid applied directly to the

inflamed surface. Some cases are much benefited by local application of 10-grain nitrate of silver, thrice weekly. Very weak solutions of permanganate of potassium have acted much better in the chronic cases, as an irrigating fluid, than boric-acid solutions. A. H. Cordier (International Jour. of Surg., May, '99).

CYSTOSCOPY AND URETERAL CATHETERIZATION.

Exploration of both bladder and ureter should be attended with due care and caution, thorough asepsis being observed, as in any surgical procedure. Before and subsequent to using the cystoscope the bladder is irrigated with a mild antiseptic solution, boric acid or Thiersch's solution being personally preferred. When the urethra is tolerant and of large calibre, cocaine anæsthesia serves an excellent purpose. In the majority of cases, however, general anæsthesia will be necessary. Under favorable conditions, though infrequently, exploration of the bladder may be undertaken in one's consulting-room, allowing, however, several hours for rest subsequent thereto. The patient may be made to assume either the knee-chest or the Trendelenburg position, the former being preferable, as in consequence of diminished abdominal pressure the bladder becomes partly distended with air upon withdrawal of the obturator from the cystoscope. The ureteral orifice may be displaced, or in a measure occluded when there exists a thickening of the wall of the bladder, some difficulty then being met with in locating or entering it. To obviate this, staining the urine, as suggested by Fenwick, of London, is of great service. One and one-half grains of fuchsin given to the patient an hour or two before the examination will color the urine a delicate pink, which may be seen to issue from the orifices of the ureters. Garceau, of Boston, has recently brought out a simple device in the nature of a vaginal depressor, fastened by a screw to a Kelly cystoscope, by which means the ureters may be readily catheterized in the knee-chest position, the cystoscope being held in a horizontal plane and the ureteral orifices presenting opposite the vesical end of the cystoscope when turned about 45 degrees to one side or the other. E. N. Liell (Med. Rec., July 1, '99).

ECZEMA, TANNOFORM IN.

Tannoform has been successfully used in twenty-four cases of skin diseases of children: twenty-three of eczema and one of herpes zoster. The eczemic cases were treated first for from twenty-four to forty-eight hours with olive-oil.

The following ointment was then applied, and renewed every twenty-four hours:—

℞ Tannoform, 1 drachm.
Adeps lanæ, 10 drachms.

Landau (Progrès Médical, No. 3, '99).

EPISTAXIS.

Treatment. — All that is necessary in epistaxis is to fashion with a pair of scissors a dry plug of prepared sponge, in size and length comparable with the little finger of a twelve-year-old boy. This should be carefully soaked in boiled water, to free it from grit, squeezed dry to free it from unnecessary fluid, and inserted its full length, gently, along the floor of the bleeding nostril. No styptic is necessary. The expansive pressure of the soft sponge against the bleeding side, increased by the coagulation of a few drops of blood in its interstices, will check the bleeding at once. It should be removed in twelve hours; under no circumstances should it remain longer than twenty-four. Melted vaselin containing

5 per cent. of carbolic acid, applied with a medicine-dropper in liberal quantities, is the only local treatment called for afterward. B. Cornick (Canada Lancet, May, '99).

ERYSIPELAS.

Examination of the blood in erysipelas, whether made during an attack or during the period of convalescence, furnishes valuable information regarding the course of an attack of erysipelas. The curve of the number of leucocytes in a case of erysipelas follows very closely that of the temperature, but this leucocytosis does not show equally throughout the various blood-elements. The polynucleated cells show an increase as soon as the malady is established, while at the same time the number of mononucleated cells diminish, such diminution occurring chiefly in the lymphocytes. When recovery takes place it is signalized by a fall in the number of polynucleated cells. The eosinophile-cells, which fell in number during the course of the illness, only appear again when the blood-infection is altogether at the end. Chantemesse (Lancet, Mar. 11, '99).

FAT AND FECUNDITY.

The treatment of sterility due to obesity in women must begin logically with the causative condition, but it must take into account at the same time the functional inertia of, or the trophic changes in, the genital apparatus. The constitutional treatment must vary according as the case may be anæmic or plethoric, simple or complicated, and must embrace a consideration of diet, exercise, bathing, medication, and general personal hygiene, while the local treatment must embrace all resources that are calculated to overcome manifest pathological states and to re-establish the functional power of the genital organs. No diet should be employed case in and case out without more or less radical modification to meet the requirements of the individual patient. In the process of reducing obesity in plethoric cases the albuminates should be kept at the maximum standard, while the fats and carbohydrates should be brought as much below that point as possible. On the other hand, in anæmic cases, particularly in those with hydræmia and low temperature, it is often imperative to maintain the bodily heat for a time at least by a diet abounding in calorific elements. It is often necessary under such circumstances to estimate in calorics. No combination of articles should be selected which represents less than 1200 nor more than 2600 calorics. With a diet of this character, reliance should be placed upon the withdrawal of fluids for the reduction of weight. Then there is a third distinct class of cases, viz.: those in which, associated with fat-accumulations in the tissues, there is also an accumulation of nitrogenous derivatives in the blood. In these cases it is often necessary to effect a reduction of weight with a diet in which an excess of fluids plays a conspicuous part. Thus, in these uric-acid cases associated with headaches, migraine, etc., it is a personal rule to flush the kidneys each morning upon rising with clear water, preferably distilled water. On the other hand, the plethoric cases demand milk. Exercise is of very great importance and should be prescribed with constant reference to the fact that the case on hand is not alone a case of obesity, but one in which the pelvic state is to be taken into account. Exercise, therefore, which may involve lifting or straining, should be avoided. Exercise of a general sort, such as walking, should be enjoined with reference to the condition of the heart and lungs,

and especially with reference to the general powers of endurance. When active exercise is not available, that of the passive variety, such as massage and Swedish movements, should be employed. Massage of the pelvic organs by the bimanual manipulation is a most valuable adjunct in re-establishing their nutrient activity. Electricity in the form of general faradization, and given in a saline bath, has a valuable influence in promoting activity of tissues. Faradization of the legs, arms, and abdominal muscles for a little while each day is a good form of exercise, but of far less value than massage skillfully applied. Local faradization of the uterus with the negative electrode within the organ, the whole procedure being surrounded by the most careful aseptic precautions, is of value in re-establishing the premenstrual afflux of blood to the pelvis and thus re-establishing the waning menstrual function. For this purpose the applications should be made for fifteen minutes daily during the week preceding the expected menstrual flow. Cold baths are favorable to fat-reduction, but, in certain intrapelvic hyperæmias and other visceral congestions so generally present in fat people, fatal complications may follow the administration of a cold bath. As the nitrogenous derivatives disappear from the blood and as the hydræmic tendency diminishes, the character of the baths may gradually be changed until the temperature reaches 70° F. or even lower, and fluids may be drawn largely from the diet. These changes must be prescribed from day to day by the attending physician and always with reference to the ascertained blood-state. Medicinal treatment in these cases must occupy a subordinate or at best a very incidental place. "A course of depletion," or "a course of iron," or "course of tonics," or a course of anything else is to be looked upon as reprehensible. Charles A. L. Reed (Amer. Med. Quarterly, June, '99).

HERNIA, CURE OF.

Hernia in young children is often cured by the wearing of a truss for a few years. In adults the truss is more of a palliative measure and is an affair of a life-time, holding in the hernia, but not curing it in any way. Personal method in a small reducible inguinal hernia is: 1. Keep the hernia within the abdomen continuously and permanently by means of a well-applied truss. 2. Systematically develop, by suitable exercises, to the greatest extent possible, the muscular and aponeurotic structure of the abdominal wall. The hernia must not be allowed to descend, as one complete descent may annul the results of weeks of treatment. A special truss should be used when the patient is in the bath and, if necessary, even when in bed, in the horizontal position. On no account must the bowel enter even the internal inguinal aperture. Practice of all such muscular efforts as will not tend to force the hernia into its sac and, if the truss be a proper one, few reasonable exercises need be forbidden. Three of the best simple exercises are: (1) the patient, with his hands at his side, raises himself from the dorsal decubitus to a sitting posture twenty or thirty times, twice or oftener a day; (2) similarly from the horizontal position, both legs should be raised from the ground almost to the perpendicular; (3) the first is modified by raising the body sideways in a rotatory movement, and thus exercising the obliques. A. A. Warden (Lancet, June 10, '99).

HIGH ALTITUDES FOR PATIENTS WITH ARTERIOSCLEROSIS.

Patients between the ages of 45 and 70 years who are the subjects of arterioscle-

rosis can often stand altitudes of 4000 feet and higher; this depends on the degree of the sclerotic process and especially on the localization, though patients in advanced stages all do better at altitudes of not over 3000 feet, and the reason is fairly simple. It is obvious that the patient will want to go for walks and that not only on level paths. He will soon get to altitudes of from 4000 to 5000 feet, even if warned to keep from climbing; if sent to a place already 4000 feet high he will take walks up to 5000 and 6000 and damage may ensue. Patients with arteriosclerosis should not attempt a residence at a high altitude without medical advice. In any case the patient should take medical advice if symptoms show themselves, such as sleeplessness, dyspepsia, giddiness, buzzing in the ears, palpitation, paræsthesia, shortness of breath, or definite slight angina pectoris. Rapid ascents to a high altitude are very injurious to patients with arteriosclerosis, and the mountain-railways up to 7000 and 10,000 feet are positively dangerous to an unsuspecting public, for many persons between the ages of 55 and 70 years consider themselves to be hale and healthy and are quite unconscious of having advanced arteriosclerosis and perchance contracted kidneys. Bad results in the shape of heart-collapse, angina, cardiac asthma, and last, not least, apoplexy, often occur only on the return to the lowlands, and patients with cirrhotic kidneys are in the greatest danger. In the case of apoplexy it is generally the combined influence of a few things slight in themselves which, added to the detrimental effect of the high altitude, produce the fatal result. Overexertion immediately after reaching the Alpine resort, overfeeding, an unusual amount of alcohol, exposure to a hot sun, and sometimes constipation neglected for a few days play their part. Patients suffering from arteriosclerosis at whatever altitude they may be should be kept on an almost vegetarian diet with sufficient mineral water, such as Vichy, Passugg, and Seltzer. They should be restricted in respect of alcohol and strong tea or coffee, and, above all, their walks on hot days must be limited to the hours between 8 and 10 A.M. and from 4 to 7 P.M. The heat of the sun on the Alpine health resort is often doubted in comparison with the lowlands, especially in shut-up valleys where the reflection of heat from the rocks and glaciers and snow-covered mountains is intensified in the rarefied air. The hours between 10 A.M. and 4 P.M. on a hot day should be spent on a cool balcony or in the shade of woods. Th. F. Zangger (Lancet, June 17, '99).

HOT FLASHES.

The following method of treatment has given relief in two cases troubled with "hot flashes":—

Tribromide tablets (7 grains), one three times daily.

And also:—

℞ Fl. ext. salix nig.,
Fl. ext. cimicifuga, of each, ½ ounce.
Fl. ext. nux vomica, 2 drachms.

M. Sig.: Twenty drops once in three hours.

The prescription was based upon the theory that these occurrences were due to irregular nervous action manifesting itself through the vascular system, and the object sought was to allay or control this irregularity. H. A. Carrington (Med. Council, June, '99).

ICHTHALBIN.

Ichthalbin in pediatrics is perfectly innocuous, and, given in ichthalbin-

cocoa, it is an almost tasteless preparation which may be exhibited internally without any difficulty. It is able to change weeping eczemas into the dry forms within a very few days, and this, too, in cases where external remedies alone were unable to effect the purpose. In combination with the remedies usually employed externally, it hastens the cure of dry eczemas. So also does it effect the recession of the multiple furuncles which frequently accompany the debilitating diseases of childhood. In wasting diseases, such as chronic pneumonia, scrofula, chronic intestinal catarrh, etc., ichthalbin effects an increase of body-weight by increasing the appetite. Hence the remedy may be recommended particularly during the frequently debilitating antisyphilitic cures, as well as in convalescences frequently aggravated by anorexia and debility, and also after febrile diseases in children. Of the intestinal catarrhs, the chronic are particularly influenced beneficially by ichthalbin, while the acute and subacute are less favorably modified. Th. Homburger (Merck's Archives, June, '99).

INEBRIETY.

Treatment. — The first indication in the treatment of inebriety is the removal of the most prominent causes. This is not always alcohol, but often some source of irritation and exhaustion in living and surroundings. The removal of alcohol can be accomplished by substitution; strong infusions of cinchona or quassia, or any similar bitter, given in 2-ounce doses every hour, will be followed by profound disgust for spirits and a sudden willing abstinence. The method of provoking emesis, and impressing the mind with an idea of the poisonous action of alcohol present, is dangerous in many ways. A number of bitter drugs freely given in large doses seem to destroy all taste and desire for spirits, with no injury to the organism. Strychnine is an excellent tonic later in the treatment, after the first two days, and particularly if the kidneys are not affected or diseased and the drug is not counter-indicated. In certain cases strychnine can be given with best results, but it is by no means a specific. Nux vomica is excellent, and can be given a longer time with more prominent effects. In private practice a pill of nux vomica, $^1/_4$ grain every three hours, is found to be very valuable, and can be used for a long time safely.

Saline cathartics with mercury should be used first, along with bitter infusions; then strychnine or nux vomica every three hours for the first three days; strychnine $^1/_{30}$ grain every three hours for one or two weeks, then larger doses at longer intervals. Iron is of value after the first ten days, and may be continued for eight or ten days at a time, at intervals of equal length. In connection with salines at the beginning, hot-water baths are the great essentials. Where the Turkish bath or sweat-bath under a cloth or in a bath-box can be given, the results are better. The object to be attained by the baths is the rapid elimination of the toxins through the skin.

Where one is called to see an inebriate in a comatose state, a profuse rubbing with hot water and soap should be given. If no other facilities will permit, simply a sponge-bath is given, then a cathartic, always a saline. To arouse him from the alcoholic coma, hot and cold applications of water to his head and spine or whole body should be given freely. Where bathing facilities can be had, shower-baths are effective in a brief time, then infusions of bark until his system is saturated and all thirst for spirits gone. Then rest and building up on the broad-

est principles of science. One should always remember that the system is poisoned and starved. As in a poisoned state, elimination is the first thing to be accomplished, with removal of the poison. Then tonics and nutrients, according to the needs of the person. T. D. Crothers (Proceedings of the Society for the Study of Inebriety, June, '99).

INSULAR SCLEROSIS.

Diagnosis. — The initiatory symptoms are very liable to be wrongly regarded as of an hysterical nature, especially if the patient be a young woman. It is only in the early stage of the disease that difficulty in diagnosis is likely to rise. One of the initial symptoms is a sudden and transient loss of power in a limb, accompanied by paræsthesia; anæsthesia may or may not be present. The patient lets things drop from his hands, or may drag his leg, walking awkwardly. Should these symptoms follow mental excitement, the inference is very likely to be made that they are of hysterical character. These attacks soon pass off, to recur soon, either in the same or some other limb. Transitory paralyses of this nature are personally regarded as characteristic of the early period of insular sclerosis. A like paralysis is usually transient and liable to recur either in the same or other eye. While an ophthalmoscopic examination may show no change, yet it should always be made in doubtful cases, as in 50 per cent. of personal cases some atrophy has been observed in either one or both eyes. The knee-jerk is usually exaggerated, very rarely absent; is never absent in hysteria. There is a pseudo-ankle-clonus occurring in hysterical conditions which is very difficult to distinguish from the genuine form. Ankle-clonus associated with loss of knee-jerk occurs in insular sclerosis. Intention-tremor is never of functional origin, while nystagmus and scanning articulation always arise from an organic base. Involvement of the bladder is common in insular sclerosis. In the early stage there is retardation of the passage of urine; retention, the characteristic of hysteria, is seldom present; incontinence is the rule during the last stages of the disease. The differentiation between hysterical paraplegia and insular sclerosis is extremely difficult. Anæsthesia of the lower extremities, especially if bound above by their junction with the trunk, is distinctly functional. Hysterical contracture, particularly of a lower limb, is most difficult to distinguish from a similar contracture found in insular sclerosis; the presence of ankle-clonus will greatly aid the diagnosis. Hysterical contractures occur suddenly, while those of sclerosis develop gradually and are sequential to loss of power in the limb. Contraction of the upper extremity is rare in sclerosis, but frequent in hysteria. Absence of the plantar reflex is indicative of hysteria, as it is usually present in sclerosis. In structural disease, if the sole of the foot be irritated there occurs extension of the toes, especially of the great toe. This never occurs in functional conditions and is a sign of great diagnostic value. T. Buzzard (Brit. Med. Jour., May 6, '99).

KERNIG'S SIGN IN MENINGITIS.

If a patient with meningitis be made to sit up, as on the edge of the bed, the thigh therefore being at a right angle with the body, it is found extremely difficult to extend the leg because of the presence of a marked flexor contracture. From the study of cases made by Kernig, Bull, Henoch, Friis, Blümm, and Netter, with the observations personally re-

corded, it seems justifiable to regard Kernig's phenomenon as present in the majority of cases of meningitis—say, 80 to 90 per cent.—and as only exceptionally present in other affections. As to the technique of eliciting this sign, it is exceedingly simple. The patient may be made to sit up on the edge of the bed with the legs hanging down, thus bringing the thigh at right angles to the body, when extension of the leg can be attempted; or the thigh can be brought at right angles to the body as the patient lies in bed on the side, or preferably on the back, and the leg then extended. The only requirement seems to be that the thigh should be placed at a right angle with the body before the attempt is made to extend the leg. Not infrequently in delirious patients — *e.g.*, in delirium tremens—a little, patient, gentle force must be used before the jerking and tense muscles yield. The same is true of some spastic conditions. But where Kernig's contracture is present patience and gentleness do not cause the muscle to yield, and the back of the patient can generally be lifted from the bed without the knees' giving way. This procedure is often accompanied by evident pain to the patient. In some cases the leg and thigh will make an obtuse angle of no more than 110 or 120 degrees. In testing for Kernig's sign there must be excluded those cases in which local causes could interfere with the proper extension of the leg, such as rheumatic or other form of arthritis of the hip or knee, myositis, old contractures from nervous diseases, and sciatica. The phenomenon can be well imitated by the latter condition.

No thoroughly satisfactory explanation of this phenomenon has been offered. James B. Herrick (Amer. Jour. Med. Sci., July, '99).

MENOPAUSE NEUROSES.

Treatment.—The first principle in the treatment of climacteric neuroses is change of scene and environment. The patient should be taken away from her friends, but she should not be sent to travel, because it is now well established that movement from place to place is not only useless, but positively harmful to an unstable brain. She may be sent to the sea-side, or, if she lives in town, into the country with one or two cheerful companions, not relations for preference. Let her be in the open air a great deal, but short of physical exhaustion. The great point is to prevent morbid thoughts' becoming organized into delusions, and this is done by discouraging introspection and self-examination, and fixing the patient's interest on something outside of her own personal conditions.

For insomnia, the open-air treatment should be tried, or a warm bath at night, but all hypnotics should be avoided as long as possible. If drugs must be used, paraldehyde should be given, beginning with $^1/_2$-drachm doses and increasing to 3 drachms if necessary.

The diet should be plentiful and fattening. Restrictions are only to be placed upon meat, which may be taken in small quantities, but a diet in which meat largely preponderates is distinctly harmful. Of tonics, nux vomica and ammoniocitrate of iron are the best. Often the patient is anæmic through profuse menstruation, and then, if there is no excitement, iron should be given; but when a patient is maniacal iron is strongly contra-indicated.

In cases in which symptoms of impaired nutrition are very prominent, massage and the Weir-Mitchell treatment are very useful, and, if there is much stupor, faradic electricity often does good. When the patient is very

restless and agitated by day, nepenthe is, by far, the best sedative. If the conduct of the patient appears to be dominated by her delusions or hallucinations, and there is any fear of suicide, it is wise to advise the friends to have her certified; but they must take the responsibility for the care and safety of the patient. These climacteric patients are invariably untidy in their habits and neglectful of their persons, and their mental conditions can be fairly well gauged by their general appearance when left to themselves; so that when one finds one's patient disposed to give such care and labor to the arrangement of her hair or the disposal of her dress one may take it as an excellent sign of recovery. W. J. H. Haslett (Treatment, June 8, '99).

In the treatment of flushes at the time of menopause the general condition of the patient must be considered, and everything possible should be done to insure as normal general health as can be secured. Excitability should be reduced by the use of the bromides, and feeble women should get the additional benefit of the use of nux vomica or strychnine. Some cases, characterized by a constant low arterial tension, are decidedly benefited by strophanthine. Ovarian extract in these cases seems to be useful; in fact, was in two personal cases after other remedies had failed after a liberal trial. A. H. P. Leuf (Med. Council, June, '99).

ORTHOFORM.

In affections of the stomach about 3 knife-pointfuls of orthoform should be given in a glass of water. This is to be taken at a draught and the patient should then lie in various positions successively, to insure contact of the mixture with the gastric wall at all points, unless any particular portion of the wall is the seat of pain, in which case the patient should lie in such a position as to bring about the prolonged application of the drug to the affected area. The results of treatment in acute or chronic gastric catarrh, chlorotic gastralgia, and in gastric crises were *nil*, but in ulcer of the stomach and in carcinoma (at the stage of ulceration) the analgesic effect was well marked. It is best administered on an empty stomach, and is especially efficacious after the organ has been washed out. Kindler (Fortschritte der Med., No. 7, '99).

OTITIS OF THE EXANTHEMATA.

In personal experience, covering a quarter of a century and embracing nearly five thousand cases of the exanthemata, especially scarlet fever and measles, otitis media has been met with as the most frequent of the various complications which may occur during the course of the exanthemata. If the attack be treated immediately upon its appearance, it is not necessary to call in the aid of an otologist. First, it is extremely important that scrupulous attention be given to the active treatment of the nose and throat in these cases, for thereby an attack of otitis is very often prevented. In regard to the question of paracentesis tympani, it is not always necessary to incise the drum-membrane. If, however, on inspection it is found that the tympanum is projecting and is highly congested, and the patient is frantic with pain, then the membrane should be incised to relieve the engorged blood-vessels. The effort, however, should always be made to abort the attack and to hinder suppuration and perforation. Those patients who are subjects of a constitutional taint, and in whom the otitis has been left untreated and allowed to go on to perforation, are very apt not to get well, but become chronic cases and lose their audition. For the accompanying

otorrhœa, the following plan of treatment has been found valuable: First, 5 drops of peroxide of hydrogen are instilled in the ear; after a few minutes this is flushed out with lukewarm water until the water returns clear, free from all turbidity; the canal is then carefully dried out with pledgets of absorbent cotton. Then 3 drops of an alcoholic solution of boric acid are put in the ear and allowed to remain there. The strength of this solution is from 5 to 10 grains to the ounce of alcohol. In most cases this treatment has been successful in checking the purulent or sero-purulent discharges, though the nurse is cautioned that the treatment must not be discontinued so long as there is a vestige of the discharge. J. Henry Fruitnight (Med. News, July 1, '99).

OXALURIA.

The following conclusions concerning oxaluria are reached:—

1. Whereas the appearance of oxalates in the urine—excluding their ingestion in foods—is due to a derangement of digestion or metabolism, this derangement probably has its cause in many cases in functional nervous irregularity, which may or may not be so great as to produce general nervous symptoms, and if these are present they are not necessarily caused by the oxalates.

2. The condition causing the appearance of oxalates in the urine may produce symptoms closely simulating the constitutional symptoms of Bright's disease.

3. The excretion of oxalates by the kidney for a short while may occasion no local disturbance of that organ, but if continued may, by irritation, cause the appearance of albumin and casts with lessened urine, corresponding to the urinary symptoms of Bright's disease, and if unchecked may lead to permanent destruction of kidney-tissue and true Bright's disease.

4. In all suspicious cases, in which the nephritic symptoms are accompanied by the appearance of oxalates in quantity, diagnosis should be held in abeyance and the oxaluria overcome by appropriate remedies to exclude this as a possible cause of the symptoms before making a positive diagnosis and pronouncing a necessarily hope-dispelling prognosis. R. F. Williams (Maryland Med. Jour., May 20, '99).

PANAMA FEVER.

When called to an acute case, a vegetable cathartic should be given, followed by an antipyretic, preferably phenobromate. Much larger doses can be given without questionable ill effects than of any other remedy used. Within an hour, capsules containing 10 to 15 grains of salicylate of soda are given. This produces free perspiration, active catharsis, and a marked diminution of the pain accompanying the attack, and a relief from the more or less nervous fear found in those having fever contracted in yellow-fever districts. In one hour a capsule containing 2 grains of muriate of quinine, 2 grains of salicylate of soda, and 2 grains of phenobromate is given and continued hourly until the thermometer registers 100° or less, when they are given every two or three hours unless 102° are shown, when the hourly dosage is resumed. In some cases, hot bottles or water-bags are used to encourage sweating. Food is allowed, excepting fats and coffee. There is usually some appetite. Distilled water is given if possible, otherwise correctly-filtered water is used very freely, the patient being required to take it whether thirsty or not. The capsules are continued until the thermometer shows a normal temperature, for at least eighteen

hours, and, if necessary, additional phenobromate is given. Under this plan no case has come up to the New York Quarantine Station with fever. W. Cummings (Med. Council, June, '99).

PERITONITIS, ACUTE.

Treatment.—The symptoms which indicate operation for acute peritonitis are: 1. Local pain becoming general or general pain localizing itself; often the pain is in the umbilical region, though the primary condition is remote. 2. Tenderness localized or general. 3. Early rigidity, which is often a great aid in diagnosis. 4. Vomiting of a green, ropy substance. 5. Shock of varying degree, even before paresis has occurred. Distension should not be waited for lest it may be too late. Rise of temperature and pulse may be absent, the temperature ranging from 99° to 105° F. or higher; the pulse from 110 to 160 and thready. If the operation is performed at the beginning the result will be better. A median incision should be made unless the primary condition indicates otherwise. Perfect drainage is impossible, especially if the intestines are distended; gauze is preferable. Irrigation is not dangerous except in localized peritonitis; here adhesions might be broken down and infection disseminated. Sterilized water, salt solution, boric-acid solution, Thiersch's solution, etc., may be used. Personally, saline solution with 1 to 2000 or 1 to 3000 formalin is used. Eight minims of formalin to 20 drachms of salt solution. The temperature of the solution should be 105° to 115° F. For irrigation Kelly's tube should be used. From 2 to 4 gallons of saline solution should be used for flushing the peritoneum, followed by 1 or 2 gallons of the formalized saline fluid. In non-suppurative peritonitis drainage is not required. A. F. Hous (Med. Rec., June 17, '99).

RHUS POISONING.

The following are reliable applications that will subdue the acute erythema caused by contact or near approach to *Rhus toxicodendron* and allied plants:—

In acute cases:—

℞ Glyco-phénique (Déclat's),
Aquæ, of each, equal parts.

M. Sig.: Apply by means of absorbent cotton or lint.

If the cutaneous inflammation has been neglected and becomes a little chronic:—

℞ Glyco-phénique,
Oleum olivæ, of each, equal parts.

M. Sig.: Apply in the same manner as the first lotion. R. L. Patterson (Med. Brief, July, '99).

SANOSE.

Sanose is a new food made of casein and albumose. It has been used with success in feeding infants and invalids. Sanose has been used extensively in the Göttingen clinic, and Schreiber and Waldvogel say that the food is readily absorbed. It has no taste and patients take it willingly. Sanose is made from milk: 4 parts are pure casein and 1 part pure albumose. If nutrose (the soluble sodium salt of casein) be dissolved in hot water, sanose swims on the top, and, after cooling, it is separated by the addition of acetic acid. Both preparations are dissimilar in appearance. The casein in the nutrose solution is in thick and obviously indigestible clots; in the sanose solution, on the other hand, the casein is finely divided, and therefore more easily digested. The course of the diarrhœa in the case of somatose is due to the presence of certain salts contained in the peptone extracted from meat, such as so-

dium chloride, chloride of calcium, and phosphates. This peculiar intestinal irritation does not take place in cases fed on sanose. Sanose is not formed by a chemical combination of casein with albumose, but it is rather a mechanical mixture of these two substances. Laboratory and clinical experiments agree in showing that the best results are obtained with four-fifths casein and one-fifth albumose. Biesenthal (Ther. Monats., Apr., '99).

STARCH DIGESTION.

Experiments upon starch digestion seem to prove the following facts:—

1. That, when a non-albuminous test-meal is given, free hydrochloric acid makes its appearance at the end of twenty minutes after eating, and at the end of half an hour the amount of free hydrochloric acid equals that of one or two hours after eating where albuminous foods are taken.

2. Under normal conditions, the ptyalin of saliva digests most of the starchy constituents of food in the stomach within one or two hours, which takes place before free hydrochloric acid accumulates in the stomach to such an extent as to interfere temporarily with the diastatic action of saliva on starchy food. Those portions of starchy food which remain comparatively undissolved, and pass over to that portion of the digestive canal where they are acted upon by the pancreatic diastase, constitute a very small portion of the starchy food taken.

3. That the administration of isolated diastase considerably enhances the digestion of starchy food in the stomach even under normal conditions.

4. The elimination of the supply of the ptyalin of saliva to the stomach will cause marked retardation of starchy digestion in stomach.

5. A maldigestion of starchy food, due to the deficiency of the diastatic power of saliva, can be regulated by the administration of isolated diastase.

6. The impression held by many that the diastase of saliva becomes non-active fifteen or twenty minutes after eating is totally erroneous. A. E. Austin (Boston Med. and Surg. Jour., June 29, '99).

STOMACH-TUBE, CONTRA-INDICATIONS TO INTRODUCTION OF.

One should never introduce a stomach-tube without a previous examination of the thorax, as an aortic aneurism may exist, and the effort necessary in some cases for the swallowing of the tube may be sufficient to rupture it, with a fatal result. As to the contra-indications for the use of the tube, Hemmeter has given the best arranged classification. According to him, the tube is contra-indicated in all constitutional and local diseases which might be aggravated or life endangered by the irritation and exertion following the introduction. Among these may be mentioned:—

1. Pregnancy.

2. Heart disease in a state of defective compensation, heart neuroses, angina pectoris, myocarditis, and fatty heart in an advanced stage.

3. Aneurism of the large arteries.

4. Recent hæmorrhage of all kinds, including apoplexies; pulmonary, renal, vesical, gastric, and rectal hæmorrhages; and hæmorrhagic infarctions.

5. Advanced pulmonary emphysema and bronchitis.

6. Advanced pulmonary tuberculosis.

7. Apoplexy and cerebral hyperæmia.

8. Advanced cachexia.

9. Presence of continued or remittent fever.

10. Ulcer of the stomach with recent hæmatemesis and dark stools.

11. Palpable carcinoma of the pylorus,

with vomiting of coffee-ground material and classical symptoms of cancer.

12. Stomach and intestinal troubles, with acute fever.

13. Gastric mucosa easily caused to bleed.

14. Secretory gastric affections whose dependence upon a distinct and more primary disease is evident.

There must necessarily be exceptions to these rules, and it rests with the physician himself to decide as to whether certain conditions present in a person are such as would contra-indicate the use of the tube. Alois B. Graham (Indiana Med. Jour., Apr., '99).

TRIPHENIN.

Triphenin is a safe, reliable antipyretic, reducing abnormal temperatures quickly and without any undesirable after-effects. It is in its analgesic power that this drug excels. In migraine, neuralgia, pleurisy, rheumatism, and influenza, with all their painful symptoms, it may be used with great benefit to the patients. For pain and fever of pneumonia, the high temperature and delirium of bad cases of measles, and hot and cold stages of malarial paroxysm, it gives the greatest relief afforded by any of this class of remedies. It is excellent for the irritability and pain found among children when teething, especially if combined with sodium bromide. In acute inflammatory rheumatism the joints are very much enlarged and acutely sensitive. A powder of equal parts of triphenin and salol, 10 to 20 grains being given every two or three hours until relief comes, will be found very valuable. This combination should not be given soon after eating, as it causes indigestion, but it may be administered a half-hour before meals or two hours after. A. G. Servoss (Merck's Archives, June, '99).

TYPHOID FEVER, ANOMALOUS ERUPTIONS IN.

Irrespective of the significant rose-spots in typhoid, there are rashes which are comparatively rare, imperfectly understood, and become the cause of confusion and error. Two of especial importance are a diffused erythema simulating scarlet fever, and an eruption like that of measles. The scarlatinal rash appears in the first week and at a time in advance of the characteristic rose-spots. It is a uniform red rash, like scarlatina; it is seen all over the body, though not so in every instance. It is more distinct in some places than in others. It is easily influenced by pressure. It has its periods of greater or less intensity, of partial disappearance, of vivid return. It lasts generally a week or somewhat longer. It passes away without desquamation. It does not perceptibly influence the course of the temperature. It is, for the most part, unconnected with sore throat or with albuminuria. Save under the exceptional circumstances of attending sore throat and desquamation, there is no difficulty in determining the two diseases, or in diagnosticating that scarlet fever is not intercurrent in typhoid. Rarer than the scarlatiniform eruption, and much more misleading, is an eruption like measles. The similarity of these cases of typhoid fever with measly eruption to typhus fever is very great, and, when we have cases in which the nervous symptoms are pronounced and enteric symptoms absent, it is very difficult to come to a conclusion, unless the malady has been seen from the beginning and the temperature has been studied from the beginning; for the measly rash common in typhus fever and very uncommon in typhoid has in both much the same appearance.

Another error likely to arise is due to

the occasional occurrence of true measles in typhoid fever.

When we contrast these cases of co-existing measles and typhoid fever with cases of typhoid fever in which a measly rash happens, we find striking differences. First, in the character of the eruption. This in true measles is coarser, more markedly papular, and has the well-known crescentic arrangement, which is not seen in typhoid fever. Secondly, there is itching and there is desquamation, which are also not observed in the typhoid-fever rash. Moreover, the presence of the coryza and catarrhal symptoms is very significant in the intercurrent measles. But of greatest value and meaning is the temperature-record. In the measly eruption of typhoid fever the eruption has no marked influence on the temperature, or greater variations are not met with than belong to the stage of typhoid fever in which the measly eruption may occur. It is different in intercurrent measles. The temperature here rises decidedly in the days immediately preceding the eruption, in the prodromal stage, exactly as in ordinary measles, and it goes on rising, or remains high, with the spreading eruption. This is quite unlike what happens in the measly eruption in typhoid fever. Where we are nearing convalescence, and the temperature has been ranging around the normal line, these temperature changes are of the greatest value in diagnosis. They are necessarily less so earlier and while the fever temperature of the enteric fever itself is still a pronounced one.

There is nothing in these rashes which seems to add gravity to the prognosis. It is true that they mostly happen in severe cases of typhoid fever; especially does the morbilliform eruption, which is much more apt to occur later in the disease and to be associated with graver symptoms than the scarlatiniform rash. But the prognosis is to be determined by these symptoms rather than by the eruptions; and, as regards treatment, they call for no special line of therapeutics. As febrile albuminuria may co-exist, we must pay close attention to the renal secretions. J. M. Da Costa (Amer. Jour. Med. Sci., July, '99).

UNGUENTIN.

When unguentin is applied to a wound or other lesion it forms at once a thin film, totally excluding the atmosphere, thus preventing bacterial invasion. It is thoroughly antiseptic, non-irritating, astringent, yet soothing, quickly relieving pain whenever there is inflammation. It is the modification of the Americanization of Sir Astley Cooper's old alum ointment by the addition of carbolic acid and ichthyol with a petrolatum base. The formula is as follows: Carbolic acid, 2 per cent.; ichthyol, 5 per cent.; alum, 15 to 16 per cent. By a special process most of the astringent properties are eliminated, thus rendering it non-irritating. Joseph R. Clausen (Louisville Med. Monthly, June, '99).

UPPER AIR-TRACT.

The anatomical nature of the upper air-passages, with their abundant supply of blood-vessels, makes them physiologically and pathologically very susceptible to congestion. The lymphatics, so prodigally supplied in the naso-pharynx and pharynx, makes a *nidus* for autointoxication surpassing any other part of the body. General practice teaches one to know that indigestion and constipation cause congestion of the portal circulation. Obstruction in this large venous system causes congestion in more remote regions. By inquiry it is nearly always found that constipation or indigestion is a characteristic of those

troubled with hypertrophic rhinitis. Another interesting reflex relation is that of the genital organs upon the upper air-passages. Excessive venery has been the cause of hay fever, asthma, hypertrophic rhinitis, and perversion of the olfactory sense. Bishop lays considerable stress on the uric-acid diathesis' being at the bottom of many catarrhal conditions. Nothing is so trying to the mucous membrane of the nose as its attempt to render superheated and foul air fit for entrance to the lungs. Hypertrophy is produced and greatly aggravated by such efforts. Another source of much discomfort is the large quantity of dust and soot in the street-air, especially in the cities. It is the duty of every community to have its streets as clean as possible, and to oblige the manufacturers to prevent the smoke nuisance. Tobacco and liquors dry and engorge the membranes of the upper tract both directly and reflexly. Meat once a day for any in-door man is enough. Beans and peas contain the same kind of nourishment—in larger proportion — as meat, are cheaper, and, if well cooked, more easily digested. Exercise is a prime factor in aiding digestion and keeping all the eliminating organs in active condition. Sawing wood, in the old-fashioned manner, is a most excellent form of exercise. This gives the kneading action to the diaphragm and bowels, which relieves the portal, and reflexly the nasal, congestion. Next in importance to exercise is bathing. By the cold bath the system is made more tolerant of draughts and sudden exposure, by teaching the arterioles to expand and contract readily. A pair of loose, thumbless mittens, made of heavy Turkish toweling, are the most convenient for a cold bath. Then with both hands one can quickly and thoroughly go over the whole body. This should be immediately done upon getting out of bed and followed by a brisk rub, the whole process not occupying over three minutes. If one is strong enough to enjoy it, a shower or plunge is excellent. The cold bath should be begun in early life. No hard-and-fast rules can be laid down about clothing. Some cannot wear wool, while others do better with it. According to the variations in the weather the clothing should be changed. Regular eating, sleeping, and exercise are salvation to many men. H. W. Hoyt (Jour. of Ophthal., Otol., and Laryn., July, '99).

UTERINE FIBROID.

The indiscriminate removal of fibroids is emphatically condemned. Small fibroids causing no trouble should be let alone. Even with large-sized growths if the systemic disturbance is not too great, it is better to wait until the menopause, when most fibroids become shrunk. Only those cases in which there is great disturbance should be operated upon. Kolb's statistics of post-mortem examination show that 40 per cent. of all women over fifty years old had fibroids in the uterus. There is no inherent danger in the fibroid itself. Alarming hæmorrhage sometimes does occur, but it is very seldom fatal. The kidney complications and obstruction of the bowels have never, in personal experience, been sufficient to cause alarm. With the exception of those cases in which they are weakened with recurrent hæmorrhages these patients appear generally to be in a splendid physical condition. They seem all to possess an immunity against the ordinary life-destroying diseases. D. T. Gilliam (Med. Rec., June 17, '99).

VAGINAL DOUCHES.

The result of observations on antepartum and postpartum vaginal douches is summarized as follows: (1) a profuse leu-

corrhœa during the latter months of pregnancy is no indication for vaginal douching; (2) the chemical reaction of a discharge has but slight effect upon its antiseptic powers: (3) the vaginal secretions of pregnant women rarely, if ever, contain pathogenic germs except gonococci: (4) vaginal douches favor the development of cervical gonorrhœa and puerperal sepsis: (5) the vaginal secretions may contain streptococci, staphylococci, diplococci, and bacilli, all of which may be non-pathogenic: (6) a discharge from the cervix may show the presence of pathogenic bacteria after all other symptoms of sepsis have disappeared. L. N. Boston (N. Y. Med. Jour., June 10, '99).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Pharyngeal Adenoid. By Edwin Pynchon, M.D., Chicago, '99.——Judicial Methods.—Medico-Legal Testimony.—The Zelner Case. By John V. Shoemaker, M.D., LL.D., Philadelphia, '99.——The Roentgen-Ray Diagnosis of Renal Calculus. By C. L. Leonard, A.M., M.D., Philadelphia, '99.——Standardization of Drugs. Significant Utterances by Leading Exponents of Medicine and Pharmacy. Parke, Davis & Co., Detroit, '99.——The Pharmacologic Assay of the Heart-tonics. By E. M. Houghton, M.D., Detroit, Mich., '98.——Practical Experience with Autoscopy. By Max Thorner, A.M., M.D., Cincinnati, Ohio, '97.——The Schleich Method of General Anesthesia, with Special Reference to Nose, Throat, and Ear Practice. By W. Scheppegrell, A.M., M.D., New Orleans, La., '99.——The Absolute Necessity of Standardized Preparations. Reprint of Editorial in Bulletin of Pharmacy, June, '99.——More About the Ethics of Adolescence. N. Y. Med. Jour., June 4, '98.——Precocious Menstruation and Precocious Pregnancy. By C. C. Mapes, Louisville.——Shall Patients be Informed that they have Cancer or Syphilis? By C. C. Mapes, Louisville, '98.——The Neuropathic Origin of Stuttering. By W. Scheppegrell, A.M., M.D., New Orleans, La., '99.——Abscess of the Nasal Septum. A Clinical Lecture. By William Lincoln Ballenger, M.D., Chicago, Ill.——Twenty-five Indications for Incision of the Membrana Tympani (Myringotomy). By William Lincoln Ballenger, M.D., Chicago, Ill., '99.——A Case of Chronic Mastoiditis. Radical Operation and Closure of the External Wound by First Intention. By William Lincoln Ballenger, M.D., Chicago, Ill., '99.——Ear Diseases Affecting Longevity. By William Lincoln Ballenger, M.D., Chicago, Ill., '99.——Chronic Suppurative Otitis Media; the Indications for Treatment. By William Lincoln Ballenger, M.D., Chicago, Ill., '98.——Autointoxication Resulting from Diseases of the Nose and Throat. By William L. Ballenger, M.D., Chicago, Ill., '97.——Urotropin in Cystitis. By J. B. McGee, M.D., Cleveland, Ohio, '99.——An Obstinate Case of Purpura Hæmorrhagica. By J. H. Burch, M.D., Baldwinsville, N. Y., '99.——A Step Forward. A Treatise on Possible Social Reform. By F. C. Theo. Kruger, '99.——Eruptions of the Face Due to Nasal Pressure. By G. D. Murray, M.D., Scranton, Pa., '99.——Report of the Committee of the Pathological Society of London appointed to Consider the Nomenclature of the Conditions sometimes Described as Pseudotuberculosis, '99.——Movable Kidney. By John B. Deaver, M.D., Philadelphia, '99.——The Standardization of Drugs and the Forthcoming Revision of the Pharmacopœia. Reprint of Editorial in Medicine, June, '99.——What Shall the Standard Be? Reprint of Editorial in the Medical Age, June 10, '99.——De La Varicocele. Sa sure radicale par la ligature double et l'excision des veines combinées à la résection étendue du scrotum. Par M. le Dr. M. T. Brennan, Montreal, '98.——Heterophoria Corrected by Atropia Sulphate. By G. D. Murray, M.D., Scranton, Pa., '98.——A Simple Gauze-packer. By William C. Bane, M.D., Denver, Col., '99.——Hog-raising in the South. By S. M. Tracy, M.D., U. S. Department of Agriculture, Washington, D. C., '99.——Three Insect Enemies of Shade-trees. By L. O. Howard. U. S. Department of Agriculture, Washington, D. C., '99.——Raising Sheep for Mutton. By Charles F. Curtiss. U. S. Department of Agriculture, Washington, D. C., '99. ——Suggestions to Southern Farmers. U. S. Department of Agriculture, Washington, D. C.,

'99.——The Velvet Bean. U. S. Department of Agriculture, Washington, D. C., '99.——Experiment-Station Work, X. U. S. Department of Agriculture, Washington, D. C., '99.——The Journal of Prison Discipline and Philanthropy. Philadelphia, '99.

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Cyclopædia of the Year's Literature.

PULMONARY TUBERCULOSIS.

Diagnosis.—Carrol E. Edson[1] calls special attention to an early sign of tuberculosis, which is the general depression of health without obvious cause, when the patient loses weight and feels himself below par, and comes to the general practitioner. In these cases one should carefully note the temperature, especially for an afternoon rise; many physicians mistake the early stages for malaria.

[1] Med. Record, June 17, '99.

F. H. Williams[2] thinks the x-ray is entitled to high rank in the early diagnosis of tuberculosis. Early departures from the normal may be recognized, but the correct estimate of these conditions is difficult, unless the examination is controlled by a careful application of older clinical methods. In the absence of other physical signs the diagnosis of pulmonary tuberculosis by this means is very difficult; but if there is a certainty of tubercular infiltration, valuable information is obtained as to how extensively the lung is invaded. Repeated examination shows the rapidity with which the infiltration is taking place. Where the x-ray examination shows a normal lung the absence of tubercular infiltration may be pretty definitely affirmed.

H. A. Lafleur[3] affirms that, by careful and thorough examination of the lungs and repeated microscopical examination of the sputum, it is usually possible to detect pulmonary tuberculosis at a comparatively early stage, sufficiently early, indeed, to insure to the majority of the patients a return to health after a more or less prolonged interval, provided that as soon as the diagnosis is made they be placed under the most favorable conditions for recovery.

We have, however, in tuberculin a means of diagnosis which enables the physician not only to make an earlier diagnosis of pulmonary tuberculosis, but to affirm the tuberculous nature of ailments which formerly were not believed to be tuberculous, or, at most, were considered to be the antecedents of a possible or probable tuberculous infection. With regard to pulmonary disease, tuberculin is especially valuable when the physical examination is inconclusive, and either no sputum whatever can be obtained, or repeated examinations have proved entirely negative, while the suspicion yet remains that the disease may be of tuberculous nature.

The tuberculin reaction consists in an elevation of temperature with a characteristic pyrexial curve, accompanied by more or less malaise, pains in the head, back, and limbs, and sometimes nausea and vomiting. The reaction occurs usually about 12 hours after the injection of a minute dose of tuberculin. It may, however, occur at the end of 8 or 9 hours, or rarely be delayed to 24 hours. The pyrexial curve is quite characteristic; there is a rather abrupt rise to a maximum, which is maintained for 2 or 3 hours, and then a gradual decline to the normal, which is usually reached in from 24 to 36 hours, and is followed by a subnormal temperature for some time. With the fall of temperature the constitutional symptoms above described subside gradually and the patient returns to his usual state of health.

The method of employing the test is as follows: For one or two days before the tuberculin is used the patient's temperature is taken at frequent intervals, at least every four hours, and better every two hours, in order that a correct idea of the range of the temperature may be obtained. The injection, with the usual aseptic precautions, is made either early in the morning at 6 or 8 o'clock, or late in the evening at 10 or 11 o'clock, so that the reaction may be observed at a convenient hour of the day. If it is desired to use tuberculin as a test in febrile cases with intermittent temperatures, the dose should be so timed that the reaction will take place during the period of normal or subnormal temperature. The space be-

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[2] Boston Med. and Surg. Jour., June 1, '99

[3] Montreal Med. Jour., June, '99.

tween the scapula and the spinal column is usually selected as the site of injection.

It is a safe rule to begin with a very small dose, and, if no reaction occur, to give a larger dose in two or three days. Trudeau advises an initial dose of $^1/_2$ milligramme of crude tuberculin. Subsequent doses of 1, 2, and 3 milligrammes may be given at appropriate intervals if no reaction occur from the minimum dose. It is not necessary or advisable to exceed a maximum dose of 10 milligrammes. Grasset and Vedel gave from $^2/_{10}$ to $^3/_{10}$ milligramme for the initial dose, and $^1/_2$ milligramme for the second. For children the dose must be proportionately smaller. Hutinel advises from $^1/_{20}$ to $^1/_{10}$ milligramme up to 1 milligramme.

The tuberculin used must be from a reliable source and the dilution freshly prepared. For purposes of dilution a $^1/_2$-per-cent. solution of carbolic acid is used.

If a patient suspected of pulmonary tuberculosis reacts to tuberculin, a careful examination of the lungs should be made during the period of reaction. It is then sometimes possible to detect some of the early auscultatory phenomena accompanying tuberculous infiltration of the lungs, which were previously absent. It must be remembered that a reaction to tuberculin simply indicates that a tuberculous focus exists in the individual. It does not imply that the symptoms which are present are necessarily due to tuberculous infection and not to some other obvious pathological condition. A negative result with maximal doses of tuberculin is really of more value than a positive one, for one may then with certainty affirm, not only that the patient's illness is not of tuberculous nature, but that there is absolutely no tuberculous focus, old or recent, in any of his organs.

Tuberculin, then, should not be used indiscriminately, but only where a reasonable suspicion remains, after other means of diagnosis have been employed, that the patient's ill health or actual illness is due to bacillary invasion.

Speaking of the value of tuberculin test in the diagnosis of tuberculosis, Edward O. Otis[4] summarizes his conclusions as follows: 1. The tuberculin test indicates early tuberculosis by a general reaction before it can be detected by other methods, except the x-ray, in the large majority of cases, with a dose of from 5 to 10 milligrammes of Koch's original tuberculin. 2. No injurious results occur from the use of tuberculin in these doses. 3. Proved tuberculosis in a more or less advanced stage may fail to give a general reaction from doses of from 10 to 12 milligrammes. 4. Syphilis gives a reaction in an undetermined proportion of cases. 5. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. 6. The reaction may be deferred from 6 to 24 hours.

The rules to be observed in making the test are as follow: 1. The same tuberculin and of a standard strength should always be used. 2. Aseptic precautions in giving the injection should be used. 3. The injections should be made deep into the muscles of the back, arm, or leg. 4. A 2-, 3-, or 4-hourly chart of the temperature should be kept if possible, beginning 24 hours before the injection. 5. Several days should be allowed to elapse before the test is repeated. 6. In early cases the general reaction should be depended upon; in late cases, if the general reaction failed, the local reaction should be carefully looked for.

A. Mansfield Holmes[5] says that in well-

[4] Med. Record, June 17, '99.

[5] *Ibid.*

advanced cases the antiphthisic serum, T. R., invariably causes an elevation of temperature, which occurs in from three to six hours after administration. There is also produced a depressing effect, which is relieved by a short period of rest.

The advantages of the tuberculin test as a means of diagnosis are twofold: (1) it serves as a reliable means of estimating the degree of convalescence, and (2) it serves as a safe and positive means of diagnosis when bacilli are found in the sputum or excreta. The study of the blood-count is of greater importance as an aid in diagnosis than the study of the sputum. When the cases are experiencing the good effects of the serum there is invariably an increase in the percentage of young lymphocytes of the blood. On the other hand, in rapidly declining tuberculous cases there is a progressive decline in the percentage.

George W. Johnson[6] reports observations in the blood of 50 tuberculous patients, all in the advanced stage of the disease. A diagnosis of tuberculosis of the lungs was positively established by microscopical examination of the sputum. That the exact extent of the disease might be known and no other pathological process present to influence the elements of the blood, a thorough physical examination was made. The hæmoglobin was far below normal in each of these cases. Chlorosis was met with in 8 patients. In these 8 cases there was oligochromæmia, normal or nearly normal number of erythrocytes, diminished diameter of erythrocytes with occasional necrobiotic changes, lymphocytosis, normoblasts, and diminished number of adult lymphocytes and low corpuscle index.

Leucocytes. — Forty-five of the 50 cases had pathological leucocytosis. Cavities were demonstrated in 28 cases; 26 of these showed great increase in the number of white cells. Nineteen of the remaining 22 cases also had leucocytosis, though no cavities were demonstrated. Leucocytosis is diagnostic of cavity formation if the vital resistance of the patient is maintained. The absence of leucocytosis precludes cavity formation. There will be a pathological leucocytosis in proportion to the extent of virulency of the septic process and the vital resistence of the patient. If the septic process is extensive and the vital resistance of the patient low, there will be a hypoleucocytosis. If there is an asthmatic or dysphonetic condition, the eosinophiles will be increased. If a septic condition is present, the polymorphonuclear neutrophiles will be in abundance, especially in the sputa. Young lymphocytes are diminished in secondary anæmia, the adult ones are increased. Neusser's granules can be seen in some cases if Ehrlich's triple stain is used. The leucocytes in Addison's disease show fine dark granules.

Erythrocytes.—Thirty-six of the 50 cases were anæmic. Twenty-eight had secondary anæmia, showing oligocythæmia, oligochromæmia, poikilocytosis, normoblasts, and increased adult lymphocytes. Streptococci and staphylococci were found in the sputa of each of these cases. Of these 50 tubercular patients, 72 per cent. were anæmic.

Etiology.—Virchow[7] asserts that the chief spreaders of the disease are cattle, by their meat and by their milk; then pigs, and lastly poultry. The greatest danger lies in milk. Cows' milk may contain bacilli, or they may find their way into the milk through the udder,

[6] Medicine, Feb., '99.

[7] Phila. Med. Jour., June 17, '99.

which is sometimes studded with foci. The only rational remedy for their enormous danger is the destruction of tuberculous cattle. But as this is not feasible at present, the danger must be minimized by boiling or sterilizing milk. Pigs are more subject to tuberculin than has been supposed. Its chief seat is the lymph-glands in the wall of the neck (scrofula). The danger from poultry is not great, as their tuberculosis is not identical with human tuberculosis. Nevertheless, tuberculous poultry should be destroyed. The existence of tuberculosis in unborn or newborn infants has never yet been conclusively proved. Infection takes place after birth—it may be in the first days of life.

Huebner[8] observes that tuberculosis is not congenital. Among the 800 infants of his clinic, none of those under a year old are tuberculous, yet 26 of those from 3 to 4 years of age have been affected. Infantile tuberculosis is, in the great majority of cases, acquired by inhalation; therefore children should be carefully guarded against contact with tuberculous patients. Children of tuberculous parents acquire the disease more readily than others, and the greatest care should be taken to strengthen them to resistance by open-air treatment, careful feeding, cold baths, etc.

Prognosis.—C. Gerhardt[9] says that the rupture of some ramification of a pulmonary artery passing through a cavity is usually the cause of the blood-spitting. In 879 cases observed blood was expectorated in 30 per cent., and over half a litre in 15 per cent. This is a most unfavorable symptom if the temperature afterward rises, but in the early stages blood-spitting is usually a very favorable alarm-signal.

Prophylaxis.—Kirchner[10] thinks that public opinion should be influenced to prevent (1) the marriage of youthful persons who, from appearance and family history, seem inclined to tuberculosis; (2) the marriage of tuberculous patients, unless two years has elapsed since symptoms of phthisis have been observed. Married patients should be carefully taught that they are a danger to the other members of the family, and instructed in all the means of their disposal for minimizing such danger.

Gilbert Gordon[11] gives the following detailed rules as useful, both to the consumptive and to his friends:—

1. Expectoration, in-doors, should be received into small paper bags and afterward burnt.

2. Expectoration, out-of-doors, should be received into a suitable bottle, to be afterward washed out with boiling water, or into a small paper handkerchief, which is afterward burnt.

3. If ordinary handkerchiefs are ever used for expectoration, they should be put into boiling water before they have time to become dry, or into some disinfectant solution to be ordered by the doctor.

4. Wet cleansing of rooms, particularly of bedrooms occupied by sick persons, should be substituted for "dusting."

5. Sunlight and fresh air are the greatest enemies of infection. Every consumptive should sleep with his bedroom window open, top and bottom, and during the day should occupy a well-ventilated room. Rebreathed air is the main cause favoring consumption. If the patient is warmly clad he need not fear keeping out-of-doors in any weather.

N. B. The patient himself is the

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[8] Phila. Med. Jour., June 17, '99.
[9] Berliner klin. Woch., No. 21, '99.
[10] Phila. Med. Jour., June 17, '99.
[11] Canada Lancet, June, '99.

greatest gainer by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.

6. Persons in good health have no reason to fear the infection of consumption. Overfatigue, intemperance, bad air, and dusty occupations favor consumption.

Treatment. — A. J. Richer[12] says that the subject of relative advantages for different classes of patients is an important one. They may be briefly classified as:—

1. Lymphatic and glandular forms of the disease, which may derive a certain amount of benefit by open-air mountain life, but are more likely to improve by a prolonged sea trip.

2. Incipient pulmonary forms, and some of the cases where softening is just commencing, which, according to the district in which they live, may be sent either to the Adirondacks, Gravenhurst, or the Laurentians.

3. Far-advanced cases, where softening is marked in one or both lungs, with more than one cavity, which had better be kept at home under appropriate sanitary *régime*, as their presence in a sanatorium exercises a demoralizing influence upon the other patients. These latter cases should be especially cared for in a city hospital, conducted upon the same principles as our civic infectious hospitals, and at the expense of the city or State, or both.

The experience of the last thirty years in sanatorium treatment has proved its value beyond the shadow of a doubt. The results obtained by many phthisiotherapeutists are proof positive of the absolute curability of 25 per cent. at least of all cases treated and the arrest of the disease, or marked improvement in 60 per cent. of the remainder. But if patients are to derive benefit from sanatorium treatment, they should not be kept at home until no more can be done for them, but should be sent to an institution as soon as the physician is satisfied of the nature of the trouble.

F. W. Burton-Fanning[13] finds that long-standing cases, presenting already some disposition to repair in their lungs and without any specially unfavorable symptom, are disappointing in their response to open-air treatment. They do not improve in the same rapid and decisive manner as the more recent and acute cases. Chronicity of disease offers greater obstacles to success than the presence of fever, for the stomach and other organs appear to be permanently deprived of their power of fully responding to the treatment when active disease has been in existence for more than about a year. For the purposes of prognosis more depends on the condition of the stomach than on that of the lungs. Those patients whose stomachs are able to tolerate a large amount of food invariably do well. Another class of consumptives who also lend themselves to the open-air treatment are those whose appetites and digestions are merely affected by the same feebleness that depresses the general vitality—who have, in fact, atonic dyspepsia. A few weeks of the open-air treatment in these cases usually produce a marked improvement in appetite, digestion, and general strength. A third class of consumptives is characterized by serious and intractable derangement of digestion and assimilation. The tongue is thickly "plastered"; there is utter distaste for all food, with nausea, vomiting, and excessive flatulence. The possibility of this con-

[12] Montreal Med. Jour., June, '99.

[13] Practitioner, July, '99.

dition's depending on amyloid degeneration must be constantly borne in mind, and the urine should be repeatedly tested for albumin. In this class but little success is noted from the adoption of the open-air treatment. Inflammatory complications in the chest may be excited by exercise in a high wind, and patients themselves notice that nothing causes cough and embarrassment of breathing more readily than wind. So delicate is the reaction of the patient to the various factors of the open-air treatment that the closest scrutiny on the part of the attendant is necessary that his patient may derive the fullest advantages. Careful regulation of the patient's life is of infinitely greater importance than mere change of climate, though the maximum amount of benefit is to be expected when both requirements are fulfilled. A good sanatorium in a well-chosen locality offers the best prospects of recovery to the majority of consumptives.

H. R. Taylor[14] states that the guiding maxim in the open-air treatment of tuberculosis is that such a climate is to be selected, either for summer or for winter, as will allow the greatest amount of exercise in the open air with the least discomfort to the patient, and with the greatest advantage to the general health. The wide-spread prejudice against high altitudes in cases of decided tendency to hæmoptysis is, in the opinion of the best authorities, unwarrantable, for patients with this tendency are, perhaps, even safer in the mountains than at the sea-level. The cases most suited for climatic treatment of any kind—as, indeed, for any other method—are those with but slight infiltration, with but few symptoms of the disease, and with strength sufficient to permit of abundant exercise. Other cases with a greater extent of pulmonary lesion and with a less degree of strength or of resistance to cold will probably need the lower, warmer winter resorts, followed by the intermediary stations, and these again by the highest elevations for the summer months. In a still more advanced stage of the disease, especially where there is much elevation of temperature, with severe subjective symptoms, the patient is not in a condition to stand much traveling nor to take much exercise. In such cases cold situations are out of the question. A warm, equable climate is to be chosen, and the nearer home the better. If improvement take place, a more mountainous locality should be sought as soon as possible. The existence of fever is not, however, *per se*, a contra-indication to high altitudes. Nor is the presence of a cavity a contra-indication in the selection of high elevations provided the lung is not evidently rapidly breaking down. Cases which are very far advanced and evidently hopeless should not be sent away at all, for only a hastening of the final end of the disease can come to the patient. It should be also clearly explained to the patients in whatever stage the disease is that change of climate is not an infallible cure, and, further, that with it must be conjoined all other necessary hygienic and dietetic measures, together with the employment of such medicinal agents as are indicated by the disease.

In the treatment of incipient phthisis at home J. Howe Adams[15] notes that the first thing is to realize the necessity of keeping the patient out-doors and in the sun as much as possible. The cold weather is no contra-indication to keeping the tuberculous patient out-of-doors as long as it is clear, dry, and not too

[14] Med. Times, Aug., '99.

[15] *Ibid.*

windy. If, however, fever exists, it is well to keep the patient at rest; he can then be put in an invalid chair and occupy the sunniest room in the house. He should be very warmly wrapped up and the window should be kept open as much as possible from time to time, taking care to see that there are no circumscribed draughts, such as from cracks, etc. At night-time the room in which the patient sleeps should be well ventilated, and yet at the same time the temperature of the room should be kept moderately high and the raw air of night should be warmed. The underclothing should be of pure wool. The patient should get plenty of good, nourishing food; especially is meat necessary. The digestion should be carefully watched and guarded, and consequently the greatest discretion should be exercised in feeding. Plenty of milk, if it agrees with the patient, is very desirable. Oily and fatty foods only confer a real benefit on a minority of consumptive sufferers, and much greater service is rendered to the nutrition of such patients by the administration of albuminous foods, the important ones among which are freshly expressed beef-juice, beef, mutton, lamb, milk, eggs, oysters, clams, liquid peptonoids, beef-powder, meat-juice, beef peptones, etc. The proper *status* of giving fat in this disease is undoubtedly in allowing the stomach to be the guide. Fats may be given to the point of toleration, but one is to be careful not to get beyond. Whisky and codliver-oil can be given very nicely in the following manner: One-half ounce of whisky is put in a conical wine-glass, and on top of this $^1/_2$ ounce of codliver-oil is placed; this is to be taken just before retiring and the same amount to be repeated in the morning. Creasote is a useful drug in pulmonary tuberculosis, and it can be given in combination with codliver-oil. At first in 1-minim doses and then increased to about 10 minims three times a day. The creasote should never be given in the form of capsules. It should be given either in pill form, in alcohol, or in hot water. Cherry wine also forms a good vehicle for its administration. Opium or its alkaloids frequently do good by relieving the irritating hacking cough and increasing the tranquillity of the patient. Often happy results follow the administration of paregoric in the early stages of the disease. It should be given in 1 or 2 teaspoonful doses at bed-time. But no cough-mixture, sedative in character, should be allowed in the morning, for at this time the patient should be permitted to cough up the material that has accumulated in his lungs during the night. If paregoric is found to be inefficient in controlling the cough $^1/_6$ or $^1/_4$ of a grain of morphia may be given hypodermically. For the night-sweats atropine, in doses of from $^1/_{100}$ to $^1/_{60}$ of a grain is the best drug, but at the same time it may be found of advantage to sponge the patient off with a solution of alum and water.

John C. Schapps,[16] who has himself been cured of consumption by going to Montana, regards living in a tent as certainly, *par excellence*, the thing for the consumptive, when the season permits. It insures the maximum of sunlight and fresh air. With a board floor and a fly much comfort can thus be secured. The furniture should include comfortable bed and chairs and favorite articles from home. Newspapers, and especially letters, are most valuable in diminishing the sense of isolation and prevent homesickness. It is highly desirable that some of the patient's own family be with him.

[16] Brooklyn Med. Jour., May, '99.

Housekeeping, on however humble a scale, gives greater freedom and comfort than boarding, and saves from association with other invalids. For winter, a cabin or cottage is necessary. In those parts of the country where land is cheap and timber plentiful—and they are the best places for the consumptive—a warm, comfortable cabin can be cheaply built. For those who do not care to keep house, board can usually be obtained at a ranch.

According to A. L. Gillespie,[17] Falkenstein sanatorium is situated 1300 feet above the sea-level, faces to the south, is guarded from winds from other points of the compass by low-topped hills. A deep, covered veranda extends right along the south face of the main building and the sides of the wings. It is a step or two above the ground-level and is furnished with many couches in which the patients lie tucked up in furs for many hours each day. Within the building there is an entire absence of carpets and mats, the spittoons are filled with water, and the use of handkerchiefs or rags are forbidden for the reception of the sputum, Dettwieler's pocket sputum flask or the numerous spittoons being used instead. Numerous meals are taken during the day; also several glasses of milk, warm from the cows, which are to be taken slowly; the patients begin with 4 glasses, but gradually increase to double this quantity. No medicinal treatment for the lung condition is adopted. If the larynx is affected, topical applications are made to it. The treatment depends entirely upon long hours of rest upon couches in open verandas exposed to pure dustless air, upon the ingestion of a large amount of food given frequently and not in large quantities at a time, much of it in the form of milk; in walks of gradually increasing length as the patient increases in strength, along the paths over the hills. If the patient has no appetite or cannot without discomfort eat, forced feeding is not resorted to. The patient is encouraged to eat as much as he can, at the same time being told the reasons for his doing so.

J. Edward Stubbert[18] emphasizes strongly that, since the establishment of thorough, systematic and constant attention to the condition of the upper respiratory organs at the Loomis Sanitarium, better results have been realized in the treatment of pulmonary lesions.

Anæmia is a marked and constant symptom. High altitudes and out-door life will remedy this condition to a certain extent. For the past year static electricity has been employed in 41 cases at the Loomis Sanitarium, from the day of admission, with gratifying results. Those patients taking, for instance, pepto-mangan and static electricity, gained weight and strength more rapidly than those taking pepto-mangan alone. In advanced cases of tuberculosis at all times, and in a very few incipient cases when they first come under observation, specially arranged diets are necessary. In 90 per cent. of incipient cases nothing is better than three substantial meals a day. Quite a number of patients suffer with chronic gastritis and dilated stomachs. Most cases of this nature can be relieved by syphon irrigation of the stomach three times a week, and if dilatation be present Einhorn's electrode may be introduced and faradization practiced. Surprisingly brilliant results generally follow, not only as to digestion, but indirectly affecting the tubercular disease.

The use of antitubercle serum would

[17] Edinburgh Med. Jour., May, '99.

[18] Med. Review of Reviews, July 25, '99.

seem to be indicated only in incipient cases, and in those presenting a pure culture or simple infection. The use of antitubercle serum would seem to be contra-indicated in the third stage of tuberculosis, marked cases of softening or excavation, those of marked hereditary taint, in cases presenting a very rapid heart-action, with relative feebleness of arterial pressure, and in those in whom corpulence, vital capacity, and conformation of the chest are much below the normal standard; also in cases presenting marked mixed infection.

Antistreptococcic serum is indicated in very few patients residing at high altitudes. Of drugs, the best results are obtained from the administration of large doses of ichthyol, and if the drug is given in such form as to pass the stomach undissolved, amounts of 30 grains, three times a day, are easily borne, and untoward effects are few. The improvement is rapid, and within one month in individual cases, where other beneficial factors would be eliminated, there may be a gain in weight of 8 or 10 pounds. In cases far advanced, those having a cavity with excessive expectoration, when ichthyol acts well, the effect is striking. Kalagua has given most excellent results in a number of cases. Only small doses from 4 to 5 grains a day are required. Kalagua, like ichthyol, changes the character of tuberculous sputum from purulent to mucoid in a short time. Creasote, with its derivatives, has been used in 71 cases. In percentage of results it ranks between kalagua and ichthyol. The actual results obtained from the use of this drug are not greatly, if at all, superior to those of other drugs, whose administration is attended by neither immediate nor remote unpleasant symptoms.

Hot inhalations, as well as cold sprays from the multiple comminuter, are of value as auxiliary methods of treatment when there is fœtid expectoration or excessive cough; they also serve in a minor degree as lung gymnastics.

George D. Barney[19] says phthisical patients require a plentiful supply of fresh air in the sleeping-room. The sleeping-room should contain but little furniture and the bed-clothing should be woolen. It is well to cover the floor with a rug that can be removed and cleaned at pleasure; the walls and furniture of the room should be mopped weekly with a solution of mercury bichloride (1 in 1000). Sweeping or raising a dust is very dangerous, and should strictly be forbidden.

A sponge-bath should be taken every morning in the following manner: The patient stands in a tub that contains a few inches of warm water, just enough to cover the feet, so that they may be kept warm until dressed. Beside the patient, on a stand, should be a basin of cold water, about 50° to 65° F., and a large sponge. With this sponge, lightly wrung out of cold water, the entire body should be gone over rapidly; then, dipping the sponge in the cold water again, it should be squeezed over the shoulders and chest. After rapidly drying with a coarse Turkish towel the patient should be dressed, still keeping the feet immersed in the tub of warm water. If the morning baths are carried out in this manner they will be found very refreshing and invigorating.

The patient should wear woolen underwear the whole year, but of different weights for different seasons: a heavy weight for winter, a medium for spring and fall, and for summer a light merino.

Jacoby[20] recommends autotransfusion

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[19] N. Y. Med. Jour., July 15, '99.

[20] Munch. med. Woch., May 3, '99.

which is secured by position, the patient lying with his shoulders depressed and the pelvis and lower extremities elevated. By means of a reclining chair, the assumption of this position is rendered easy. Autotransfusion prophylactically during sleep is recommended, by dispensing with pillows. Weicker employed the method at a sanatorium. The patients laid flat on the floor on blankets and breathed systematically. While lying thus the patients coughed a little more, but very little during the day afterward, and the improvement was very marked. The author has had a reclining chair constructed in which the patients rest for five minutes in a semisitting posture, then for five minutes in a horizontal position.

Bruno Alexander[21] thinks that camphor is one of the best agents in the treatment of pulmonary tuberculosis. In about eight days it quiets the nervous troubles, headache, and insomnia, and, if continued longer, the congestive symptoms of the lungs disappear. In patients with fever, from $^{15}/_{100}$ to $^{30}/_{100}$ grain of camphor, or 1 or 2 Pravaz syringefuls of camphorated oil are daily injected subcutaneously, the treatment being continued for from four to six weeks without interruption, at the end of which time it is dropped from one to four weeks, to be resumed later. When the fever has disappeared the dose is increased to from $^{45}/_{100}$ to $^{75}/_{100}$ grain during one or two weeks without interruption.

Alexander Macgregor[22] is convinced that chinosol is a valuable drug in the treatment of phthisis. In the case of adults 5 grains seem to be a sufficient dose, but owing to its very pungent taste care must be taken in the dispensing of the drug. In a delicate boy, aged 13 years, crepitant râles in the apex of the left lung rapidly disappeared under 2 grains three times a day. In a few cases of advanced and extensive disease no improvement followed the use of the drug.

W. Schiele[23] considers ichthyol much more useful in the treatment of tuberculosis than creasote. As it is not a specific, proper regulation of diet and the maintenance of carefully arranged hygienic conditions should be insisted on. Ichthyol produces no ill after effects, and may be administered combined with liquor ammonia anisati, cherry-laurel water, etc. By using it as ichthalbin it can very easily be taken as a powder with a little saccharin and aromatics, or suspended in an aromatic syrup of any kind.

Thiocol-roche, a comparatively new guaiacol derivative, which, unlike most guaiacol compounds, is easily soluble in water, has been used by Luigi Maramaldi[24] in cases of phthisis with excellent results. Those who came in the very early stage of the disease, before cavities were present, were rapidly cured. Patients in whom the disease was moderately advanced likewise rapidly recovered, and of the very advanced cases many showed marked improvement. The dose to be administered is from 15 to 45 grains per day. Whenever a larger dose than 45 grains per day was prescribed, the patient always experienced intolerance to Thiocol-roche.

TETANUS.

Symptoms. — Henry Grey Croly[25] has often noticed yawning to be a forerunning symptom of tetanus.

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[21] Gaz. Hebdom. de Méd. et de Chir.; Revue Méd., May 24, '99.

[22] Lancet, July 8, '99.

[23] St. Petersburger med. Woch., xxiv, No. 9, '99.

[24] Therapist, May 15, '99.

[25] Brit. Med. Jour., Jan. 8, '98.

Etiology.—Pizzini[26] sought the bacillus of tetanus in the fæces of 10 healthy persons who were used to attend on horses, and found them in 3 cases, while in the fæces of 90 countrymen positive results were obtained in only two.

H. C. Wood[27] gives the notes of a case interesting, first, because it was an almost typical case of so-called "cerebral tetanus," apparently the result of an operation for hæmorrhoids; second, on account of the complete failure of the five-million-immunity units of an American tetanus antitoxin to produce any apparent effect whatever. This is the fourth case of surgical tetanus personally seen in a comparatively short period, and in the three others it is believed that the poisoning was produced by washing the wound with unboiled Schuylkill water, the surgeon supposing that he had sterilized the water by the use of corrosive sublimate, forgetful of the fact that the bacillus of tetanus is one of the most sturdy of pathogenetic germs, its spores being capable of surviving a heat which kills the spores of all other known bacilli, and it itself not being killed by a two hours' immersion in a 1 to 1000 solution of mercurial chloride.

Prognosis. — According to an editorial,[28] tetanus, as a rule, is not fatal in ten days after the receipt of the wound, although the earlier the disease appears after the injury, the more virulent and the more rapidly fatal it is likely to be. It would thus appear that many of the Fourth-of-July cases are instances of extreme virulence. Several deaths were reported in Philadelphia so early as the 11th inst., and Boston reported one death on the 10th. The wound in the vast majority of cases is in the palm of the hand or in the fingers, and is caused by the obnoxious toy-pistol or the cannon-cracker. It is, therefore, either a penetrating or lacerated wound—often both—and thus presents the most favorable conditions for infection. Moreover, the hand of the victim is usually begrimed with dirt—especially from the earth.

Prophylaxis. — An editorial[29] states that, although one of the most fatal diseases, tetanus is probably one of the most easily preventable in many cases. The wound should be thoroughly cleaned and drained, as only a good surgeon or physician can do it, and never by amateurs nor according to household methods. Cauterization in these cases is a pernicious practice, because it makes a crust over the wound, and effectually imprisons the microbes, and thus promotes infection. The serum-treatment has so far not proved reliable.

An editorial writer[30] denounces the toy-pistol with the so-called blank cartridge as exceedingly dangerous. Punctured wounds through the palmar fascia must be widely opened and kept open, and cleaned and kept clean. Common atmospheric air will poison what few bacilli of tetanus cannot be washed away. Tetanus bacillus is omnipresent in street and stable dirt and garden mold. The experience of the last few weeks in Boston has agreed with that of previous years in showing that in the acute cases, namely, those in which the symptoms appeared within ten days of the infection, treatment by antitoxin or any other method was useless. In Boston 6 cases occurred within six days and all died. Two cases treated at the Boston City Hospital received large doses, 400 to 500 cubic centimetres by intravenous injec-

[26] Rivista d'Igiene e Sanita Publica, No. 5, '98.

[27] Univ. Med. Mag., July, '98.

[28] Phila. Med. Jour., July 22, '99.

[29] *Ibid.*

[30] Boston Med. and Surg. Jour., July 20, '99.

tion, in spite of which the progress of the disease to a fatal termination was rapid.

Treatment. — Wassermann and Takaki[31] think that if the tetanus antitoxin is nothing but the product of certain dissolved parts of the cells of the medulla, an emulsion made with the normal medulla should neutralize the diphtheritic toxin. Experiments practiced in this direction have showed that the medulla and the brain of normal animals (man, guinea-pigs, rabbits, pigeons, horses) not only neutralize the tetanic toxin, but even exercise an immunizing and a therapeutic action on animals that have been poisoned with the tetanus toxin. Experiments were made on mice and showed that, whereas the animals tolerated with impunity the injections of tetanic toxins mixed with the emulsion of medullary or cerebral substance, all the check animals, which were injected with the tetanic toxin mixed with serum or with an emulsion of hepatic, renal, or splenic parenchyma from animals also healthy, died.

It was also ascertained that the antitetanic properties of the normal brain were much more pronounced than those of the normal medulla. A cubic centimetre of an emulsion of the cerebral substance completely neutralized a dose ten times as large as the fatal dose of tetanic toxin; the addition of a cubic centimetre of cerebral emulsion to a dose of toxin sixty times as large was sufficient to retard considerably the occurrence of the tetanic symptoms in the animal into which this mixture was injected; and the addition of a cubic centimetre of an emulsion of the medullary substance did not completely neutralize a dose of toxin three times as large as the fatal dose.

On the other hand, it was ascertained that the animals into which a certain quantity of an emulsion of the normal cerebral or medullary substance was injected bore with impunity the ulterior injections of doses of toxin from three to five times as large as the fatal dose, made twenty-four hours after the injection of cerebral substance; and, that the injection of normal cerebral substance into mice, from four to six hours after the injection of a fatal dose of tetanic toxin, led to the recovery of the animals.

There exists a peculiar affinity between the tetanic toxin and certain cellular complexes of the central nervous system, and this affinity is manifested not only in the case of the central nervous system of the living organism, but also in that of the dead spinal medulla and brain; that is to say, isolated from the organism. When an injection is used of an emulsion of these organs—that is, when the cerebral substances circulates with the blood, the tetanic toxin, finding the nervous substance in circulation, is combined with it before proceeding to exercise its action on the cellular elements of the central nervous system, which is thus spared.

According to E. Roux and A. Borel, Ninth International Congress of Hygiene and Demography,[32] the specific affinity of nervous elements for tetanic toxin is manifested when a little toxin is introduced into the cerebral substance of a rabbit. A special disease is created, cerebral tetanus, characterized by extraordinary excitability of the animal, by intermittent convulsive attacks, motor agitation, polyuria, etc., manifestations which in no respect recall ordinary tetanus. The introduction of tetanic toxin into the brain is done by making a small hole with a suitable instrument in a cranial bone, and injecting with a needle

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[31] Presse Méd., Jan. 22, '98.

[32] Med. Times, July, '98.

deep into the cerebral substance $^1/_{10}$ or $^1/_{20}$ of diluted toxin. Death may occur at the end of twelve or fifteen hours, but when the dose is light the animal may survive for fifteen days. Very small doses of the toxin produce a tetanus that is attenuated and curable. Immunized animals do not resist intracerebral inoculation, though their blood is antitoxic. This proves that the antitoxin which is given to animals by injecting antitetanic serum under the skin remains in the blood in the circulatory system, and, not reaching the nerve cells, does not protect them. This is why, in the treatment of pronounced tetanus, the antitetanic serum so often fails. It neutralizes the portion of toxin already circulating in the vessels, but it does not effect that which is in the nervous elements. The nervous system should be inoculated with the antitoxin. One should not wait until the tetanic poison has accomplished its work upon the whole myelencephalon, for it is entirely probable that intracerebral inoculation would not save the animal after the upper portion of the medulla had received the full effects of the poison. The experiments also prove that the animals that possess active immunity by repeated injections of toxin, or the immunity natural to tetanic and diphtheritic toxins, succumb to tetanus and diphtheria if the brain is inoculated with these poisons. These facts show that in the immunity against certain poisons of the nervous system, the resistence of the animals is due to the fact that toxins introduced into the circulation does not attack the nerve cells.

In giving intracerebral injections, Albert Kocher[33] recommends the following method:—

The anterior half of the scalp is first shaved and cleansed, then the point at which the injection is to be given is determined with the aid of a craniometer. In order to inject the fluid into the lateral ventricles, so as to avoid the motor centres, a point $2\,^1/_2$ to 3 centimetres from the bregma has been found to meet all indications. After cocainizing the scalp in this region a hole is drilled through the scalp and cranium; upon withdrawal of the bone-drill the hypodermic syringe is inserted, and the medicated fluid injected into the lateral ventricles.

In giving the intracerebral injections of antitoxin, Semple[34] recommends that an imaginary line should be taken from one auditory meatus to the other, and from the centre of this another imaginary line should be drawn to the outer angle of the orbit, the middle of this second line being the spot to be trephined, or opened by a drill just large enough to admit the nozzle of a syringe. The serum utilized is concentrated, and the 5 cubic centimetres used represents 10 cubic centimetres of the original serum. The injection is to be made very slowly.

From an examination of recent literature, Albert Carless[35] has compiled a list of 25 patients treated by the intracerebral injection of antitoxin, with 11 recoveries and 14 deaths. Several of the recoveries occurred in patients whose attacks may be considered severe, whether measured by the early onset or by the rapid evolution of the symptoms when once they have commenced, while others were hopeless from the first, and it was obviously useless to have operated, since the disturbance of respiration and of the heart's action indicated that the bulb centres were affected. Intracerebral injection does not interfere with treatment

[33] Centralbl. f. Chir., No. 22, '99.
[34] Brit. Med. Jour., Jan. 7, '99.
[35] Practitioner, July, '99.

by hypodermic or intravenous injection of antitoxin, and the causative wound must be dealt with by thorough scraping and disinfection, or by amputation. In one case the injection was repeated on five different occasions: thrice on both sides of the brain, and twice on one side alone. In all 71 cubic centimetres were injected into the brain, together with 104 cubic centimetres hypodermically. This case, treated by Gibb, finally recovered, although it was nine days before any improvement was manifested. The dried antitoxin, corresponding to 10 cubic centimetres of antitetanic, is sent out in aseptic glass tubes from the Pasteur Institute, Paris, and after opening carefully so as to avoid contamination, is dissolved in 5 cubic centimetres of sterilized water. When completely in solution, it is placed in the usual syringe, thoroughly sterilized, employed for such injections, and preferably of Roux's pattern.

In a case of tetanus confirmed by bacteriological examinations reported by D. Gimlette,[36] intracerebral injections of antitetanic serum were successfully given. No "brain symptoms" followed the introduction of the long needle and injection of serum into the brain-substance.

Garnier[37] has successfully treated a second case of tetanus by the intracerebral injection of antitoxin. The patient became ill on June 5th, and on the evening of the 6th had marked symptoms of not very severe tetanus. Ten cubic centimetres of antitetanic serum were injected into a vein, and large doses of chloral hydrate were given by the rectum. This treatment was continued till the 9th, but he became worse and death threatened to ensue on account of frequency of the convulsions. Ether was given, and, after trephining, 6 cubic centimetres of a special serum was injected into the cerebral tissue—3 cubic centimetres very slowly into each hemisphere, just in front of the fissure of Rolando. After recovering from the anæsthetic the convulsions recommenced, and were very severe during the night. Next morning there was distinct improvement, and more serum was given subcutaneously. As improvement was very marked by the next day, the antitetanic and chloral treatment was continued until the 12th of July, when he was cured.

Julliard[38] reports the case of a young man who was accidentally wounded by a shotgun, and who afterward developed tetanus. Eighteen hours after the onset of tetanic symptoms the patient was put under ether, and trephined 3 centimetres above the left frontal eminence. A syringe was then thrust through the dura mater into the cerebral substance for $1\,^1/_2$ centimetres, and 2 centimetres of antitetanus serum injected into the left frontal lobe. The injection lasted seven minutes. A second, given twenty minutes later, introduced 2 centimetres of serum into the right frontal lobe. The spasms ceased while the patient was under ether, but returned as soon as he came out from the effects of the anæsthetic, and he died sixteen hours after the operation. Autopsy showed that the injections had caused no lesion to the cerebral substance, and had been completely absorbed. There was acute miliary tuberculosis and a left subacute pleurisy, with miliary tubercles scattered over the pleura, and miliary infiltration of the left upper lobe. Possibly the unsuspected miliary tuberculosis may have had something to do with the failure of the treatment employed for the tetanus.

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[36] Lancet, July 8, '99.

[37] Presse Méd., Aug. 21, '98.

[38] Rev. Méd. de la Suisse Rom., Apr. 20, '99.

William F. Gibb[39] mentions the case of a boy, who, having been given intracerebral injections of tetanus antitoxin, recovered from the symptoms of tetanus, and was again taken seriously ill, and died eight weeks after the last injection. The autopsy showed abscesses in each frontal lobe with extension of pus into the left ventricle, and the presence of staphylococcus pyogenes aureus was demonstrated by cultures. Great care was taken to secure asepsis.

Quénu[40] notes 5 fatal cases of tetanus treated by intracerebral injections of antitetanic serum. Two of the cases occurred in his own practice.

An editorial[41] mentions a case of asphyxia under chloroform due to tetanus. The patient died while being chloroformed for the intracerebral injection of serum for the relief of tetanus. During the inhalation he had a tetanic convulsion and death from asphyxia resulted. Opening the trachea and careful perflation of the lungs with oxygen appear to offer the best chance of saving life in these emergencies.

In regard to the antitoxin treatment of tetanus, Lund[42] reaches the following conclusions:—

Although the statistics of the antitoxin treatment of tetanus up to the present time apparently show a diminution in the mortality under this treatment, they may be legitimately criticized as on the whole insufficient in total number, in definiteness of reports, and as probably not including all fatal cases treated. The more carefully we study them the less evidence do we find that the antitoxin treatment, and not the mild course of the disease, was responsible for the favorable course in the cases which were recovered. There is no satisfactory evidence that harm has resulted from the injections. There is a distant probability that in the great majority of the total number of cases treated the dose of antitoxin, especially the all-important initial dose, has been too small to have any possible effect upon the disease. The treatment in view of the present intractability of the disease demands further trial. A valuable field for the use of antitoxin lies in its employment for immunizing purposes. The treatment of tetanus, according to present knowledge, should consist of: (*a*) thorough disinfection of the primary focus by mechanical means, including, if necessary and practicable, amputation; (*b*) the thorough local employment of such chemical antiseptics as have been shown to destroy both the bacilli and the toxin; (*c*) symptomatic treatment by sedatives, etc.; (*d*) thorough diuresis; (*e*) intravenous injection at the earliest possible moment of an amount of antitoxic serum which shall contain at least 500 antitoxic units.

Heddaeus[43] has drawn the following conclusions in regard to treatment of tetanus: 1. Behring's tetanus antitoxin is an efficacious remedy of a specific character, and should be used at the earliest possible moment. 2. The earliest destruction of the infected area must not be omitted, as from it a permanent supply of the toxin is provided. 3. The symptomatic treatment with sedatives, including narcotics, should go hand in hand with the serum treatment. 4. Other means of eliminating the tetanus poison should not be neglected. 5. Preventive serum treatment deserves further consideration.

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[39] Brit. Med. Jour., July 1, '99.

[40] Jour. des Praticiens, No. 11, '99.

[41] Lancet, July 8, '99.

[42] Boston Med. and Surg. Jour.; Ther. Gaz., Feb. 15, '99.

[43] Münch. med. Woch., Mar. 29, '98.

Patteson[44] thinks that it is only in cases in which the onset of symptoms has been somewhat delayed that satisfactory results may be anticipated from using the serum, and such cases generally tend to recover in any case.

Copley[45] emphasizes the fact that in giving antitoxin the only fair way of testing its value is to give large doses—as much as 7 1/2 drachms (30 cubic centimetres) at once—and repeat at least every six hours till improvement is seen. Even mild cases, he thinks, should be treated in this way. In a severe case he would not hesitate in injecting 12 1/2 drachms (50 cubic centimetres) at once, and repeating in four hours. The only disagreeable symptom produced by large doses is an irritable rash that appears on the body of the patient.

Gwilym G. Davis,[46] from his own experience and observation as to the mortality following the ordinary sedative treatment of traumatic tetanus, has concluded that the disease is almost always fatal, unless decidedly slow and subacute in its onset and course. In 2 cases in which the antitoxin of Roux was given, the first case receiving 42 doses in eighteen days, and the second case 28 doses in twelve days, the patients recovered.

Of 2 cases of traumatic tetanus, Reinhard[47] treated one of them by the ordinary method, and it terminated fatally. The other case, though under much worse surroundings than the first, and of apparently greater severity, was treated with antitetanic serum and recovered.

Beuthner[48] had a case of tetanus in a boy, aged 5 1/2 years, who, while playing, barefooted in damp meadow, cut his foot with broken glass. This was followed by a very severe tetanus. In spite of antitoxin's being injected within twenty-four hours of the first symptoms, death resulted twenty-six hours later. Two injections of 2 1/2 cubic centimetres each (503 tetanus antitoxin units) were given.

In the case of a child, 7 days old, taken with tetanus, Meerkowski[49] found that the umbilicus was suppurating. Ten centimetres of antitetanic serum, obtained from the Pasteur Institute, was injected twelve hours after the first development of the disease, but the child died the following day.

Horatio C. Wood, Jr.,[50] believes strongly in use of carbolic acid in the treatment of tetanus. The method of Baccelli is as follows: If the tetanus is of traumatic origin, the wound is thoroughly cleansed with a strong antiseptic solution (either corrosive sublimate or carbolic acid). The patient is then placed in as quiet an apartment as can be obtained, the ordinary rules of diet, etc., are carried out, and subcutaneous injection of a 2-per-cent. solution of carbolic acid given at two- or three- hour intervals. If the case is one of only moderate severity, commencing doses of about 3 grains in the twenty-four hours may be used. This dose should, however, be rapidly increased to at least double or triple the quantity. Along with the carbolic acid other remedies, as morphine or chloral, may be given, as thought necessary. From the study of Italian literature, it would seem that: 1. Carbolic acid gives better results in tetanus than does the antitoxin treatment. 2. It acts by antagonizing the toxin and by quieting the nervous system. 3. It should always be given hypo-

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[44] Dublin Jour. of Med. Sci., Oct., '98.

[45] Brit. Med. Jour., 10. p. 337. '98.

[46] Annals of Surg., Aug., '98.

[47] Münch. med. Woch., vol. xiv. p. 261.

[48] Therap. Beilage der Deutsch. med. Woch., Oct. 6, '98.

[49] La Presse Méd., Jan. 14, '99.

[50] Merck's Archives, May, '99.

dermically, and in large enough doses, cases of tetanus being remarkably tolerant toward it. 4. Other methods of treatment should be continued, of which the discoverer lays especial stress on the local disinfection of the wound.

Lentaigne[51] has treated 3 cases of tetanus with mercury and chloral, all of which recovered. The chloral was given in 15- or 20-grain doses every third hour to relieve spasms, and both drugs were continued so long as any symptoms appeared. The patient was rapidly mercurialized, and then kept under the influence of the drug by small doses; hot carbolic and sublimate lotions were constantly kept on, and in the neighborhood of the wound a mixture containing 1 in 40 carbolic acid, and 1 in 1000 or 2000 corrosive sublimate was used. The immediate and efficient application of antiseptics to the wound is most important from a prophylactic point of view.

TETANY.

Symptoms. — Floyd M. Crandall[52] states that the onset of the paroxysms may be preceded by sensory symptoms, but is commonly sudden and without warning. The attack frequently occurs as the child awakens, and the spasm is sometimes continuous, lasting for days or weeks. In many cases the spasm is limited to the arms and legs. Occasionally the adductors of the thigh and arm are involved, so that the arms and legs are drawn forcibly together. In rare cases the muscles of the neck are involved, and occasionally those of the trunk and face. Laryngismus stridulus is a very frequent accompaniment of tetany. Trismus is extremely rare in tetany, and never occurs in the early stage, as it does in tetanus.

In a true case of tetany, in the interval between the paroxysms, pressure upon the large nerve-trunks and arteries of the region affected will frequently induce a paroxysm. This, known as Trousseau's sign, is characteristic. There is no loss of consciousness in tetany. The knee-jerk and cutaneous reflexes are exaggerated. The temperature is normal.

Morse[53] considers that the only pathognomonic symptom of tetany is spontaneous, intermittent, paroxysmal muscular contraction. The most common seat of these contractures being the muscles of the forearm, the fingers are flexed at the metacarpo-phalangeal joints, while the phalanges are extended, the thumb being strongly adducted, the wrist acutely flexed, and the hand turned to the ulner side. The shoulder- and elbow-joints are seldom involved in the milder cases. The term tetany should only be applied to cases where these contractures are present. Other symptoms frequently occur in association with the contractures, as Erb's and Trousseau's symptoms, Chvostek's facial irritability, laryngospasms, and convulsions. In other cases, again, sensory disturbances may be seen including pain on movement during a spasm, or vasomotor and trophic disturbance, as œdema of the wrist and ankle. Tetany may arise from many causes and it must be regarded merely as a symptom and not as a disease. In gastro-intestinal disorders, in rickets, and in many acute diseases, toxic substances are generated which are capable of producing the characteristic symptoms. The action of these poisonous substances may show itself by a special modification, functional rather than organic, of the central or peripheral symptoms.

Etiology. — Sievers[54] notes 2 fatal cases of tetany, which occurred in con-

[51] Brit. Med. Jour., Jan. 8, '98.
[52] Archives of Ped., Jan., '98.
[53] Edinburgh Med. Jour., July, '99.
[54] Berliner Klin. Woch., Nos. 31 and 32, '98.

nection with dilated stomach. In both there was stenosis of the pylorus from healed ulcers and enormous dilatation. In all the reports of fatal cases, 27 in number, it was found in most of cases there was dilatation due to stenosis from the scars of pyloric or duodenal ulcers, or else there was ulcer or scar without stenosis. In some cases these were not to be found, and in some hydrochloric acid was not present during life. In three cases carcinoma had developed in the edge of the healed ulcers. In all these the tetany occurred late, when the hydrochloric acid was probably diminished. In stenosis from healed ulcers the most extreme forms of dilatation occur, and these offer a better opportunity for the toxic substances to form than do the milder cases.

Treatment.—S. S. Adams[55] agrees with the following conclusions of Maestro:—

1. The administration of the thyroid gland is extremely useful in the treatment of idiopathic tetany in children, as it always diminishes the intensity and the frequency of the attack and shortens the duration of the disease; it also hastens the arrival of the latent period which precedes recovery.

2. The treatment is well tolerated by the children.

3. The organic changes, the digestive functions, and diuresis are notably influenced by this mode of treatment.

4. The circulatory and respiratory functions are accomplished normally during this treatment.

5. In very young children, on account of their perfect tolerance, it is useful to administer the thyroid gland, raw or slightly cooked, internally.

6. With the exception of certain peculiar cases, it is not necessary to suspend the treatment from time to time.

7. The daily dose is 30 to 60 grains.

8. This treatment is not opposed to the symptomatic treatment, as it does not present any incompatibility with the methods ordinarily employed.

If the cause be sepsis, antiseptic measures should be employed. The bromides may diminish the severity of the paroxysms and should be administered. The general health, especially the nutrition, of the infant should be carefully supervised.

Albert Albu[56] would advise operation in all cases of gastric tetany, since the tetany is due to intoxication from the putrid material in the stomach.

WHOOPING-COUGH.

Treatment.—In whooping-cough Willoughby[57] considers that the rational treatment consists in the avoidance of everything that may tend to maintain the irritation. The child should be kept in a well-ventilated room, at a uniform and comfortable temperature, protected from draughts, all excitement or agitation of mind or body, quarreling, noisy play, or the like avoided, and, if old enough, he should be persuaded to check, or at any rate, not to give way to, needless coughing. The diet should be light, and solid meat withheld so long as the paroxysms are severe or there is a tendency to vomiting. Oranges are to be recommended, but on no account should the connective tissue or celluline be swallowed. The drug on which, for more than twenty years, most reliance has been personally placed is chloral-hydrate. Given in such doses and at such intervals, which may be left to the discretion of a careful mother, that the child shall sleep half again as many hours as it otherwise would, and be disposed to doze, or, at any rate, to

[55] Amer. Jour. of Obstet., June, '98.

[56] Archiv f. Verdauungs-Krankh., Dec. 31, '98.

[57] Practical Therap., May 15, '99.

lie down from time to time during the day. With very young infants in whom the asphyxia and cerebral congestion induced by violent and prolonged paroxysms leads to convulsions, a few double doses given in closer succession completely obviate the danger. In some cases it may be useful to combine a bromide with the chloral; its action seems to be greatly aided by combining it with antipyrine,—chloral, antipyrine, and wine of ipecac, with syrup, being a favorite formula.

F. J. Taylor[58] regards hygienic treatment as of the greatest importance in the treatment of whooping-cough. The living-room of the patient should have the air of an even temperature, preferably about 68° F. It should be free from draughts and yet well ventilated. In summer the children should be out in the open air the whole day when the weather is fine; in winter out-door exercise should be confined to dry, still days in which the temperature is not too low. Great stress should be placed on the fact that the child with whooping-cough *should be fed often.* A paroxysm of coughing is very likely to end in vomiting, and if the child has recently taken its nourishment, the stomach is emptied and the patient must suffer in consequence. In such cases he should take a little easily digested food after each act of emesis. If the patient will take them, 4 to 6 eggs a day are not too much for a child of 4 years, in addition to 4 to 6 ounces of meat-juice, with perhaps other foods. Warm flannel undergarments should be worn, and especial care should be taken that the patient does not become chilled at night. In advanced whooping-cough, the greatest benefit is sometimes obtained by change of air. Excitement and overexercise should always be avoided. If an anodyne must be used, codeine is considered one of the safest. Antipyrine is one of the drugs upon which most reliance can be placed. Beginning with a small dose, it should be increased until a child of 2 years is taking 2 or 3 grains every three hours. In many cases its action is a little short of marvelous, but in the majority all one can expect is a decided lessening in number and severity of paroxysms. Bromide of potassium, sodium, or ammonium may advantageously be combined with antipyrine or belladonna. Alum is especially useful to check excessive secretion in the later stages, or where the presence of mucus seems to excite the paroxysms. Two grains may be given every three or four hours at 2 years of age. If the cough and catarrh are excessive, a weak mixture of codeine and tartar emetic may be used very cautiously: $^1/_2$ grain codeine, 1 grain of tartar emetic to goblet of water, a teaspoonful being given every hour or two hours, according to the severity of the cough and distress. Harrington is confident that formaldehyde-fumes will almost completely stop the vomiting and paroxysms. He uses the paraform tablets, which are largely formaldehyde. One tablet is powerful enough when evaporated to disinfect 35 cubic feet of air. He uses 3 or 4 tablets for an ordinary room. He simply permeates the air of the room, not completely disinfecting it, for in the latter case it becomes an irritant and will do more harm than good. He places 2 or 3 tablets of paraform in $^1/_2$ drachm of alcohol and lets it evaporate over a gentle heat.

During convalescence the system should be built up by iron, arsenic, strychnine, and codliver-oil, with nutri-

[58] Annals of Gyn. and Ped., July, '99.

tious food; good, pure air; and change of scene.

In whooping-cough Grancher[59] uses the following formula of Marfan:—

℞ Expressed oil of almond, 4 fluidrachms.
Bromoform, 48 drops.
Mix, shake well, and then add:—
Gum arabic, 4 drachms.
Cherry-laurel water, 1 fluidrachm.
Distilled water, to make 30 fluidrachms.

Of this mixture a small teaspoonful holds about 2 drops of bromoform. As the bromoform will settle, it is necessary to shake well before using.

Cohn[60] has treated whooping-cough with bromoform for the last six years with remarkable benefit in some cases, while the drug did not seem to affect others. The poisonous effects of the drug must be strenuously guarded against. The practice of giving it in drop form is not safe.

Euquinine was administered by Cassel[61] in 18 cases, 7 boys and 11 girls, ranging in age from 10 months to 9 years. The drug was administered either in sweetened water or in milk, at first 5 grains were given a day to children 4 to 7 years of age; 2 grains were used for children, 18 months; later larger doses being employed—10 to 15 grains a day. One case, a child of 9, took, throughout the course of the disease, nearly 2 ounces. No untoward action was noted in any of the cases. In the 18 cases, 12 were simple, uncomplicated by fever, while 6 had an accompanying rise in temperature. Euquinine is not a specific, but has a more prompt and persistent action than any drug thus far offered. Its influence to lessen the length of the disease was manifested.

M. P. Creel[62] has found the following prescription very useful in whooping-cough:—

℞ Tincture of belladonna, 32 minims.
Syrup of ipecac, 40 minims.
Syrup of Tolu, 2 ounces.

A teaspoonful to be given each two hours to a child one year old.

Five grains of bromide of sodium are also given in addition to the above. Schering's formalin-lamp should burn in the room, 1 formalin pastil being consumed in three or four hours if the flame is low. Of 100 cases thus treated, recovery was reached in 75 with an average treatment of ten days.

[59] Sem. Méd., xix, No. 13, '99.
[60] Therap. Monats., Jan., '99.
[61] Therap. Monats., xiii, p. 190, '99.
[62] Medical Review, May 27, '99.

Cyclopædia of Current Literature.

ACETANILID POISONING.

Case of acetanilid poisoning that occurred from internal absorption in an infant. The patient was a female infant about 4 months old. She had suffered severely from the heat, perspiring freely and becoming chafed in the folds of the groin and creases of the thighs. In some of these localities the intertrigo had become almost eczematous. For the treatment of this condition a dusting-powder of pure acetanilid had been ordered and used only once, when the alarming symptoms developed. About 10 o'clock on the morning of the day the powder had been dusted upon and rubbed over the affected

surfaces. The baby was then nursed and put to sleep in her crib. When taken out at 1 P.M., the time for her next nursing, the skin had a peculiar grayish pallor and the lips were bluish, though the surface-temperature did not seem lower than usual. She nursed well, and went to sleep again at 2.30 P.M.; the skin was waxy, the mucous membrane of the lips and tongue more deeply cyanotic, and the face drawn and pinched-looking. At 3.30 P.M. the appearance was still unchanged, and the child was in a heavy slumber, from which she could not be easily aroused. There was no sweating; about 5 P.M. she had improved somewhat in appearance; the cardiac action and respiration were not appreciably disturbed. A few drops of whisky were then given hourly, and at 6.45 P.M. the cyanosis was passing off and continued to do so appreciably. She could be roused easily, but was disposed to lie quietly, and readily fell asleep again. The pupils were normal, and the pulse and respiration showed no marked alteration. Recovery was thenceforth uninterrupted, without demanding further treatment. In the case here recorded the actual amount of surface capable of directly absorbing the drug was very small. The conclusion may be justly drawn that the use of acetanilid as a desiccant dressing with young children, even when there is an insignificant exposure of the derm, is distinctly dangerous to life. T. S. Westcott (Pediatrics, June 15, '99).

ACROMEGALY.

In acromegaly the pains must be relieved by appropriate remedies; iron and arsenic should be given for toning up the enfeebled muscles in the later stages, and the glycosuria should be controlled by suitable diet, codeine, caffeine, alkalines, etc. Thyroid gland, alone or combined with extract of pituitary body, has been given in ascending doses by a number of clinicians, with seemingly good results. The headaches and pains were markedly decreased or relieved. In a very few cases an actual diminution in the size of the bones has been observed. W. N. Lackey (Phila. Med. Jour., July 22, '99).

ANGIONEUROTIC ŒDEMA.

Angioneurotic œdema is a disease characterized by circumscribed œdematous swellings, occurring suddenly in various parts of the body, remaining but a short time, and disappearing as quickly as it appeared. After the swelling has subsided there is no trace of secondary change in the parts. It occurs most frequently in adult life and in males. It has been seen, however, in children, and also in old age. Heredity is an important element in the cause of this disease. All excesses, exposure to cold, bodily fatigue, grief, fright, and slight wounds are regarded as etiologic factors. An attack is sometimes excited by certain foods. The disease usually manifests itself without premonition, though it may be preceded with a general feeling of depression, associated with ill-defined, gastro-intestinal symptoms. The œdema appears suddenly, reaches its full development in a few minutes or a few hours, and is of brief duration. The lips, eyelids, face, larynx, and hands are the most usual sites, but it may affect any part of the body, even the mucous membrane. The œdematous spots are well defined, and vary in size from two to twenty inches. In some cases the hue of the skin is altered, becoming light or dark red, while in others it is pale and waxy. There is no pitting on pressure; a characteristic feeling of crackling is communicated to the finger very like that produced by placing a silk handkerchief over a thin

film of cotton. The subjective symptoms are a feeling of tension or weight in the affected part, and a burning and itching. Outside of these there are no symptoms, and even these are not constant. Abdominal colic and watery vomiting are prominent symptoms in some cases. The bodily temperature is usually normal. Medication seems to have no effect upon its course. The disease is benign and self-limited; in fact, except in cases of œdema of the larynx, there is no real need of active measures. The salicylates, especially the salicylate of soda, have given best results in the hands of others, but in personal case made no impression. Strychnia, belladonna, ergot, and colchicum rendered better service. H. F. Slifer (Phila. Med. Jour., July 29, '99).

APOPLEXY, SEROUS CEREBRAL.

In serous cerebral apoplexy the patient falls suddenly, the face becomes pale, and the hands cold and clammy; or, in exceptional cases of the cyanotic type, the face becomes red, and the blood-vessels turgid. In some cases the brain retains its power, but usually its function is impaired and unconsciousness follows. In other cases there may be such a degree of cerebral œdema and localized intracranial pressure that hemiplegia or general paralysis follows. The great danger in serous cerebral apoplexy is that the feeble heart will cease to continue action. Therefore the head should be kept low, the body at rest, and moist heat should be applied to the brain. If necessary, forcible respiration must be employed. With this treatment the patient will usually so far recover that in the course of an hour he can be moved to a place of comfort, if still kept continually in a prone position. C. A. Leale (Med. News, July 29, '99).

APPENDICITIS, TREATMENT OF.

In the initial stage of appendicitis severe symptoms of onset demand immediate intervention. These symptoms are pain, vomiting, tenderness, rigidity, and shock. In many cases these symptoms will subside, but the general trend of a case cannot be determined at one observation. Exploration is therefore indicated. Cases of mild onset may well wait until a second observation shows the probable course of the case. The most important question is not whether to operate in appendicitis, but rather when to operate. The best time to operate is in the period of perfect health following the attack. When observed for the first time on the second, third, or fourth days, severe cases should be operated upon at once, unless they are improving so rapidly that there is a strong expectation of complete recovery and interval operation. Intervention is still more strongly indicated if the symptoms are increasing in severity. Operation is indicated, too, if the symptoms after marked improvement recur, as if, though moderate, they are not improving. If the patient is improving with a successfully localized peritonitis of considerable extent, especially if it is centrally localized, as in the pelvis, operation should be postponed until intervention can be safely practiced, because these cases comprise, in the absence of general peritonitis, the most dangerous ones. When there is a tumor situated to the right side, or directly under the abdominal wall, so that walling off with gauze is practicable, operation may be performed under conditions that would contra-indicate intervention when the tumor is centrally located or in the pelvis. In cases very far advanced nothing should be done. In areas with firm walls, simple drainage by a small incision is preferable to removal of the appendix. Of

105 cases of simple drainage, all recovered but 2. An attempt should always be made to remove the appendix whenever the peritoneal cavity is opened, unless the patient's condition forbids prolonged search. If, after recovery from simple drainage in acute appendicitis, there is evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised, and the wound carefully closed. Hernia of itself, after all operations for acute appendicitis, should be operated upon if it causes discomfort or disability. M. H. Richardson (Med. Rec., July 15, '99).

ARTHRITIS URICA.

Treatment. — The electrolytical treatment used in 10 cases of arthritis urica at the Sandefjord bath. This treatment owes its origin to Edison, but was introduced in the Scandinavian countries by Levison, who some years ago published a relation of several cases of gout benefited by the introduction of lithia through the skin by the aid of the galvanic current. Now the method is employed in Sandefjord, Larvik, and Modum baths in Norway. Ten cases of gout personally treated in that way were much benefited by it, whereas a case of arthritis deformans did not improve. Heyerdahl (Tidsskrift f. Norsk Laegeforening, p. 238, '99).

BASEDOW'S DISEASE.

In Basedow's disease iodine should be employed externally in liniments, some reduction of the struma being often obtained by it. Internally, 4 teaspoonfuls of a solution of phosphate of sodium (15 to 250), are to be given every day. The ingestion of thyroid gland in personal cases was of no effect or aggravated the symptoms: in some cases the thymus tabloids (Burroughs & Wellcome), 5 to 10 tabloids being given daily, act well. In extreme cases the extirpation of the thyroid gland is indicated. Vetlesen (Norsk Mag. f. Laegevid., p. 755, '99).

BOILS.

Treatment. — Hypodermic antiseptic injections into the very base of a boil or carbuncle, early in its history, is practically an unfailing means for aborting an attack, however severe.

If a boil is small 1 injection, or 2 from opposite directions, carried well in from points on the outer margin of the indurated area, are commonly sufficient to kill the morbid process. It is not usually necessary to repeat the injections more than once, although occasionally a second or even a third treatment may be necessary. By carrying the needle well into the middle of the boil, near the base, the injection will escape through the crown of the boil if suppuration is well begun, and thus a larger amount can be used with safety than at the very outset, when less is needed. It is commonly practicable to wash out the cavity with a sharp-pointed syringe and an antiseptic solution daily after the first treatment, unless the boil was aborted at the very onset without perceptible suppuration or necrosis of tissues. The after-treatment consists in the application of cloths wrung out from hot, but weak, bichloride solution until the inflammation has disappeared, and all necrosed tissue has come away. Then a dry antiseptic dressing suffices. Lysol may be employed both for the hypodermic use and later dressing. In from twenty-four to forty-eight hours the pain from the boil or carbuncle is usually all gone, and active inflammation has ceased. William O. Stillman (International Jour. of Surg., Aug., '99).

CANCER OF THE STOMACH.

Diagnosis. — The following rules are suggested upon which to base a positive diagnosis of cancer of the stomach:—

1. If particles of tumor are found (in the wash-water or in the tube) which under the microscope reveal the characteristic picture of a maligant growth.

2. The presence of a more or less large tumor with an uneven surface, belonging to the stomach and associated with dyspeptic symptoms.

3. The presence of a tumor associated with frequent hæmatemesis.

4. Constant pains, frequent vomiting, ischochymia, emaciation—all these symptoms being quite permanent and not extending over too long a period of time (six months to a year).

5. Tumor and ischochymia.

6. Emaciation, ischochymia, presence of lactic acid.

7. Constant anorexia and pains, not yielding to treatment, accompanied by frequent small hæmorrhages of coffee-ground color. M. Einhorn (New York Med. Jour., July 29, '99).

CANCER OF THE UTERUS.

Etiology.—Cancer of the uterus is not an hereditary disease, because in more than half of personal cases the family history was absolutely free from it for three generations. Cancer of the uterus has been proved by numerous experiments to be a contagious disease probably due to a microbe which does not flourish on healthy tissues, but which luxuriates on tissues of low vitality, such as cicatrices, or on women whose vitality is below par. Cancer is frequent and increasing in countries where little or no attention is paid to laceration of the cervix, while it is becoming quite rare in countries where these lacerations are promptly repaired. Ferrett has conclusively proved that cancer of the cervix almost always begins in the cicatricial tissue in the angle of the wound. A. Lapthorn Smith (Canada Lancet, July, '99).

CARDIAC STRAIN IN ADOLESCENCE.

Treatment.—In the cardiac strain and the cardiac fatigue in young girls about the age of puberty, that period when chlorosis and anæmia are so common, the treatment consists of rest, systematic rest, good and suitable food in ample quantity, and cardiac and blood tonics. A young girl suffering from anæmia and heart-strain or fatigue, instead of being made to rise at the same early hour as the rest of the family, should be made to remain in bed for two hours longer in the morning. She should have a good substantial breakfast in bed; and on rising, in warm weather, the body should be rapidly sponged with cold or tepid water, and the cold sponge drawn several times down the spine. After dressing she should rest for half an hour. A good meal should be taken in the middle of the day, and she should rest in the horizontal position for an hour or an hour and a half afterward. A half to three-quarters of an hour's walk, twice a day, is all the exercise that should be permitted, and she should be allowed to walk at her own pace. She should retire to bed early, and she should have some nourishing food, such as milk or good soup at bed-time, and a glass of milk by her bedside to take if she wishes it during the night. Lessons should be given up, or only used as an amusement, or so far as they are regarded as a pleasant occupation. The preparations of iron are the greatest value, and among these the well-known Blaud's pills have a deservedly high reputation; but the addition of a direct cardiac tonic, as a stimulant to the muscular contractions of the heart,

will be found to greatly add to their efficiency and none is better than nux vomica. It may be given in pills, *i.e.*, three times a day, each pill containing 1 grain of powdered nux vomica. When it can be taken without any trouble, a dessertspoonful of codliver-oil should also be given once a day. I. Burney Yeo (Edinburgh Med. Jour., July, '99).

CASCARA SAGRADA IN HABITUAL CONSTIPATION.

For more than twelve years past cascara sagrada has been personally used in the treatment of habitual constipation to the exclusion of other drugs. The original fluid extract of Parke, Davis & Co., which contains all the nauseous and bitter properties of the preparation has always been used. In prescribing it, the patient receives an ounce of the fluid extract, and with it a dropper and some large-sized capsules, and the nauseous effect of the drug is not noted. He is instructed to begin with 15, 20, or 25 drops according to the necessities of the case. This is to be placed in the capsule just before taking. The dose is always given at night, and the effects of the drug are usually not noted until the following morning. The dose is increased, if needed, by 5 drops each night, until the quantity is reached that causes a bowel movement; the drug is continued at this dose for a few days, and is then gradually reduced 1 drop each night until its administration ceases.

Cascara sagrada is the only drug that stimulates peristalsis of the intestine and at the same time permits of a gradual lessening of the dose without marked decrease in its therapeutic effect. Used in the way here described, it is the most efficient medicinal means in the treatment of habitual constipation. H. N. Moyer (Medicine, Aug., '99).

COUGH, EXTRAPULMONARY.

In personal experience an enlarged uvula is the most frequent cause of extrapulmonary coughs. Inspection shows the uvula of such length that it may touch the tongue, or in the recumbent position its end may touch the epiglottis or even reach the entrance of the larynx. Persons who suffer from an elongated uvula complain of a foreign substance in the throat, and they have a constant desire to swallow as if to rid the throat of some extraneous body. The cough from an elongated uvula is not infrequently associated with nausea and vomiting. Laryngospastic symptoms may develop at night, for it is at this time, when the patient assumes a recumbent position, that the cough is most pronounced. The patient soon learns intuitively that the violent paroxysms of coughing may be inhibited by sitting up in bed, or leaning forward. A moderate amount of expectoration is nearly always present, owing to the associated pharyngeal catarrh. Inspection of the throat often shows no real elongation, because some patients involuntarily contract the palate and uvula; therefore they must be taught to relax the parts. The application of cocaine aids in diagnosis. Limiting the application of the cocaine to the uvula alone is of little value; it must be applied to the adjacent structures. Amputation of the uvula is the only cure; if followed by a cessation of cough the diagnosis is made. Albert Abrams (Medicine, Aug., '99).

CREASOTE IN MALARIAL FEVERS.

The following is an ideal treatment for malarial fevers in children, as it combines everything that is necessary, even in very severe cases; it is easily applied; it acts rapidly and continuously, and with certainty: Pure beech-wood creasote, 15 to

20 minims for a child of 1 year, or 30 to 60 minims for an adult, is mixed with an equal quantity, or more, of olive-oil, and rubbed, for from five to ten minutes, over the chest, abdomen, axillæ, and sides. The oil is only employed to counteract the tingling and burning occasionally produced by the creasote. A. O. Fitzgerald (Brit. Med. Jour., July 15, '99).

DELIRIUM, TREATMENT OF.

So far as the treatment of delirious conditions is concerned, it will be determined by the therapeusis of the underlying disease as soon as this is recognized. Nevertheless, there are certain features of the treatment to be kept in mind, especially with reference to the symptomatic treatment of delirium itself. A true delirium is the outcome of exhaustion, and this furnishes an indication for free simulation and for preservation of the bodily strength. Abundant nourishment is consequently primarily indicated. In protracted delirium, when the patient cannot take his nourishment naturally, the use of the stomach-tube must not be neglected. Nutritive enemata alone are not sufficient, and should be employed only when feeding through the stomach-tube is contra-indicated. When there is enfeebled heart-action, it is well to add wine to the food given. If the heart's action is very much diminished in force, subcutaneous injections of ether or camphor should be resorted to. When the circulation is very much impaired, intravenous or subcutaneous infusions of a saline solution are indicated. Patient should be kept in bed if it is at all possible. In the cases of patients who have feelings of great anxiety and whose clinical conduct resembles that of a melancholic frenzy, or when the delirium has developed from a melancholia, subcutaneous injections of opium or morphine are rapidly efficient in producing quiet. If the indication to reach the psychomotor centres directly exists, as in a case of maniacal frenzy, hypodermic injections of hyoscine or hyoscyamine are efficacious. Subcutaneous injection of ergotine is often followed by a good result in cases of delirium which seem to be dependent upon congestive conditions, such as paralytic mania, epileptic insanity, menstrual delirium, etc. Warm baths and wet packs frequently exert a sedative action. If the delirium is accompanied by fever, ice applications and cold sponge-baths are useful. Venesection is unreservedly condemned. Wm. Hirsch (N. Y. Med. Jour., July 22, '99).

EUPHTHALMIN.

Euphthalmin acts on the eye as a true mydriatic. Its influence is more feeble and brief than that of homatropine.

Its influence on accommodation is relatively slight; so that it has no practical value as a cycloplegic; and its cycloplegic influence causes but trifling annoyance when it is used as a mydriatic.

It is the best agent we have to produce brief dilatation of the pupil under a strong light; and stands next to cocaine in value for dilating the pupil for the ophthalmoscopical examination.

Combined with cocaine it produces a satisfactory mydriasis for the examination of the eye, with the least annoyance to the patient and the most rapid recovery. Edward Jackson (Ophthalmic Record, July, '99).

GASTRIC ULCER.

The conclusions based on the study of 187 cases of gastric ulcer occurring at the Massachusetts General Hospital, 1888-98, are:—

1. Gastric ulcer is more frequent in Boston than in Chicago, Baltimore, Denver, or San Francisco.

2. It is five times as common in women as in men.

3. The average age in men is 37 years; in women, 27.

4. Hæmorrhage was present in 81 per cent. of the cases. It caused death of 17 per cent. of the male patients, but only 1.27 per cent. of the females. No woman under 30 died of hæmorrhage from gastric ulcer during this period.

5. The blood was that of a chlorotic type of anæmia.

6. Perforation occurred in 3.2 per cent. of the cases, and none of these patients left the hospital alive.

7. Of 114 patients 80 per cent. were discharged cured or relieved, but at the end of an average period of five years only 40 per cent. remained well. The mortality at the same time (due to gastric disease) was 20 per cent. Among the males it was 30 per cent., with the females 9 per cent.

8. The excessive mortality of ulcer among men, its occurrence in life a decade later than in women, and the absence of fatal cases of hæmorrhage in females, point to a difference of the ulcer in the two sexes.

9. The mortality of 8 per cent., and the failure of medical treatment to effect a lasting cure in 60 per cent. of the patients, indicates the need of surgical intervention in other than emergency cases of this disease. R. B. Greenough and E. P. Joslin (Amer. Jour. Med. Sciences, Aug., '99).

GLAUCOMA.

Treatment.—In acute congestive glaucoma the first thing to be done is to give a subcutaneous injection of morphia, and as soon as possible thereafter an iridectomy should be performed under an anæsthetic. Moderate coloboma and a large and peripheral corneo-scleral section made with a keratome should be aimed at. For some time following the operation a solution of eserine or pilocarpine should be dropped into the eye two or three times a day. The amount may be gradually diminished to 1 instillation daily, 1 every second day, and so on, when the tension and visual acuity show that no recurrence has taken place. The standard as to the visual acuity should be that amount which in the absence of complications exists one week after iridectomy. Failure to secure permanent relief following iridectomy may be due to either a gradual return of the increased tension, or a slow degenerative change in the retina causing blindness. In the former case the treatment is to reopen the old corneal scar, at the same time make a fresh wound and remove a further portion of the iris. In the second instance no further operative interference is called for. In glaucoma occurring in early life, iridectomy is apt to cause dislocation of the lens, therefore sclerotomy, repeated if necessary several times, until either there is an evident decrease in the distension of the eye, or it appears quite hopeless that this can be brought about at all, is recommended. In cases in which premonitory glaucoma is at all frequent, the patient should have his pilocarpine drops always at hand. The solution should be made up with some antiseptic, such as boric acid or corrosive sublimate. Gentle rubbing of the eyes is often also useful in dispelling these symptoms. G. A. Berry (Edinburgh Med. Jour., Apr., '99).

HIGH ALTITUDE AND HEART DISEASE.

The conclusions reached regarding the effect of high altitude on heart disease are:—

1. All forms of cardiac disease do not contra-indicate sojourn at a high altitude.

2. The ill-effects of low atmospheric pressure in some forms of cardiac disease are explicable on the hypothesis of acceleration of venous flow and corresponding quickening of the heart-beats.

3. Consequently those forms with which high altitude is likely to prove incompatible are pronounced aortic or mitral stenosis, and regurgitant disease complicated by pleural and pericardial adhesions.

4. On the other hand, patients with uncomplicated regurgitant lesions or arteriosclerosis, with or without myocardial changes, may endure low atmospheric pressure without injury. Robert H. Babcock (Med. News, July 15, '99).

HOLOCAINE IN EYE-WORK.

Both cocaine and holocaine possess the common property of paralyzing the terminal filaments of the sensory nerves, and both are therefore good local anæsthetics. For practical purposes there is no great difference between them, as regards the time of onset or the duration of anæsthesia. Nor do they materially differ in the intensity of the resulting anæsthesia. But whereas the cocainized eye in personal experiment was pale, protruding, of lower tension, with the pupil dilated and the fissure of the eyelid enlarged, the holocainized eye was red and inflamed, of normal tension, not protruding, pupil normal, and palpebral fissure not enlarged. For the removal of a foreign body from the cornea holocaine is to be preferred, for, unlike cocaine, it does not produce the subsequent disagreeable mydriasis; also for a strabismus operation is holocaine to be preferred, for cocaine causes the muscle to shrink, and thus often permits some muscular fibres to escape the strabismus-hook. In the treatment of inflammatory affections of conjunctiva and cornea, associated with painful blepharospasm, holocaine is of great value, for it not only relieves the spasm and allays the pain, but also acts as an antiseptic, and thus is a curative agent. But, on the other hand, cocaine is to be preferred in the performance of an iridectomy where the arteries appear atheromatous and where we would avoid a considerable hæmorrhage. The vasoconstrictor effect of cocaine, and the diminished tension of the eyeball, together with the subsequent deepening of the anterior chamber, are all factors in favor of using cocaine for the performance of an iridectomy under these circumstances. For the extraction of a cataract where the pupil is small, cocaine is to be preferred on account of its mydriatic action. For the many other operations on and about the eye, these two agents may be used indifferently, unless, indeed, the bactericidal action of holocaine should incline us to use it in preference to cocaine. J. Guttmann (N. Y. Med. Jour., June 17, '99).

HYPERÆSTHESIA DUE TO DISEASES OF DIGESTIVE ORGANS.

A study has been made of the cutaneous hyperæsthesias caused by different diseases of the organs of digestion; in 29 cases hyperæsthesia of the skin was observed in the form of horizontal zones of different extent and commonly limited to one-half of the body; ordinarily the patients complain of spontaneous pain at some point on the abdomen, and on examination it is found that slight pinching of the skin on that place and in a zone extending horizontally to the middle line of the body and ordinarily also on the back is much more painful than on all other portions of the skin. The hyperæsthetical zones are varying in size

and place according to the internal organs diseased, and are commonly found in the superior part of the abdomen, extending to the chest, in diseases of the stomach; in the inferior parts of the abdomen in diseases of the colon or the rectum. Most of the patients presenting this symptom were women, but part of them only suffered from hysterical symptoms, whereas the majority had no hysterical stigmata and were suffering from ulcus ventriculi, enteroptosis, colitis, or other derangements of the digestive organs often complicated with anæmia.

In all cases the treatment was principally directed against the disease of the internal organ, and in some cases the hyperæsthesia disappeared with the other symptoms, but very often it continued although the derangement of the digestive organs had been cured, and yielded only to local treatment by faradization, cutaneous irritants, etc. Knud Faber (Hospitaltid., p. 315, '99).

ICE AS ANTIPYRETIC.

As an antipyretic, *per se*, ice is certainly the remedy which should be given preference over all others. It may be administered in all cases of hyperpyrexia without respect to the causes which may be producing such condition, and with a fair prospect of at least producing in the patient a more comfortable state. H. L. Baird (Charlotte Med. Jour., July, '99).

INFANT-FEEDING.

It is quite safe to predict that an infant, if it has the breast only once or twice in the course of twenty-four hours, will thrive on the bottle much better than on the bottle alone. It is not advisable to deprive the infant of the mother's breast, no matter how scant the secretion of the breast may be. It is very difficult to decide how much cows' milk should be given such infants, because it is impracticable to measure the amount of milk secreted by the breast in question. An observant mother and physician will soon find out, however, how much additional milk should be given in any case. Henry Koplik (Med. News, June 22, '99).

INFANTILE DIARRHŒA.

In a severe case of summer diarrhœa the first indication is to wash out the stomach, remove fermenting material, and prevent the absorption of toxic materials from the gastro-intestinal tract. This lavage need not be repeated. The intestines should be washed out frequently, however. It removes peccant material; it stimulates peristalsis, which also helps to remove undesirable irritating substances, and it supplies water to the infant: a very useful measure, since it is well known that the child is water-starved. A stiff rubber rectal tube, such as used for adults, may be used without fear. Too much pressure should not be employed, however, in forcing water into the intestines as it is possible to burst them. The irrigator should not be placed more than one foot above the patient. It is a good plan to try and leave considerable water in the intestine when the irrigation is concluded. About a pint of normal salt solution should be employed. Koplik (Med. News, July 15, '99).

A certain small amount of cereals does not cause, but rather checks, diarrhœa. They are not, it is true, always effective, but milk diluted with oatmeal- or barley-water always is tolerated better than if diluted with plain water. As a rule, pasteurization suffices to make milk safe for infant consumption. In very hot weather it is safer to sterilize. Chapin (Med. News, July 15, '99).

INSOMNIA.

Treatment.—The treatment of insomnia resolves itself primarily into the treatment of the causative condition. If it is indigestion, acid or gouty dyspepsia, careful attention to the diet, the avoidance of tea and cooked or uncooked fruit, and of all substances containing vegetable acids except in so far as these may be used in treatment, are essential. An alkaline bitter before meals, an occasional mercurial at bed-times, followed by a saline aperient the next morning, and in the gouty colchicum and magnesia or sodium salicylate should be prescribed. In the insomnia of the aged and the overtired, and in that due to cardiac and vascular disease, nux vomica and strychnine are beneficial remedies. In cardiac disease and in neurasthenics with low arterial tension, digitalis and the other cardiac tonics may be resorted to. In anæmia iron, nux vomica, and sometimes digitalis, are required. But often this method does not suffice. The removal of the cause does not bring back refreshing sleep. In other words, we have to break the habit of sleeplessness; and it is here that hypnotics are of such great value. The best of these for any individual patient will vary according to his condition. There is no absolutely safe hypnotic, but experimental investigation and clinical experience show that paraldehyde stands in the first rank. Chloralamid and chloralose are safer, but slower in action, than chloral-hydrate. But, as a whole, the bromides seem to be the least harmful, and in simple cases, uncomplicated by other diseases, it is personal practice where an hypnotic is necessary to try them before resorting to any other drug. In all cases where practicable, the bedroom ought to be in a quiet part of the house, well ventilated, and of moderate temperature. Light should be easily excluded and the apartment scantily furnished. The bed should vary according to the custom of the individual—for young and middle-aged adults a firm mattress is the best, but for the old a softer bedding may be necessary. The covering should be light and warm, but in the use of pillows no general recommendation can be made; as a rule, this arrangement may be left to the choice of the individual. Some people read themselves to sleep; some people count; other people, like Southey, think of some monotonous discourse. Walking about naked or taking a cold or tepid bath is often useful. Massage, especially of the abdomen, the thighs, and the legs, is sometimes advantageous, and it may be further aided by a hot compress to the abdomen. In the case of cold feet rubbing them vigorously or the use of a hot bottle or a foot-bath with mustard in it is beneficial; or, again, a hot sitz-bath may be used. Attention also should be given to the condition of the stomach. As a rule, a light supper is the best, and for many, and especially those who awake in the middle of the night, a little hot milk or meat-juice containing a small amount of alcohol, is helpful. The evacuations should also be attended to and the bladder especially relieved.

Sleeplessness from overwork, and especially literary work, requires mental rest and change of air and scene. Temporary exposure to the cool air of the bedroom or the wet pack or a bath is often of use, and so is a glass of whisky and water at bed-time, especially in those unaccustomed to the use of alcohol; but if the insomnia continue it is necessary to give a mild hypnotic, such as 20 grains of sulphonal or 30 or 40 grains of bromide of potassium, to break the habit of sleeplessness. Capsules containing 30 minims of turpentine given at bed-time are some-

times beneficial in the insomnia of overwork and worry. No beverages containing caffeine should be taken after breakfast.

In nervous and hysterical women, and especially in women at the menopause, the bromides are very useful. A mixture of bromide—either of potassium, sodium, or ammonium—tincture of sumbul and tincture of hop in camphor-water may be given at the climacteric. J. B. Bradbury (Lancet, July 15, '99).

LUPUS.

Treatment.—The prospects of the use of liquid air in the treatment of lupus is extremely encouraging. One case of lupus erythematosus, involving the frontal region, both ears, and one side of the face, was put under treatment about two months ago. After two treatments the affected areas entirely desquamated, leaving the derma in perfectly healthy condition, slightly red, and no eschar. This was an obstinate case, which has been under treatment for a long time, resisting everything that had been done for it. There is no evidence of any tendency to recurrence. A. C. White (Med. Rec., July 22, '99).

MARASMUS, INFANTILE.

Infantile marasmus is the result of destructive changes in the intestinal tract leading to disturbance of assimilation. A certain degree of autointoxication may possibly complicate the process, but this cannot be the most important element. A condition of the bones, similar to that occurring in rachitis, certainly does not exist. It will be impossible to produce any improvement in any of these cases until radical changes are made in the method of nursing and the environment, as the monotony of the treatment, as much as any other element, appears to have an injurious effect. A. Baginsky (Deutsche med. Wochenschrift, May 4, '99).

MILK-WHEY.

Milk-whey is of great value in infant feeding. It may be prepared by using Hawksley's sterilizing apparatus. Thirty ounces of good fresh milk are placed in the bottle provided and the heat raised to 104° F. Two teaspoonfuls of Benger's essence of rennet are added and the whole set aside for a few minutes. When curdling has taken place the curd should be thoroughly broken up by stirring and shaking the bottle; then it should be strained through a fine muslin. This fluid should be heated to 160° F. for twenty minutes in order to destroy the rennin. If more curd forms on heating, it must be again strained. Prepared in this way, whey contains, on an average: proteids, 0.97 per cent.; fat, 2 per cent.; salts, 6.1 per cent., the amount of fat being much larger than in whey prepared by simply straining the whey off the curd without agitation. Prepared in this way with or without the addition of 2 or 3 drachms of milk-sugar to the pint, it makes a useful food for newborn infants who have to be artificially fed or for infants who suffer from chronic vomiting or have liquid, green, curdy stools. A weak humanized milk may be made by adding 10 ounces of fresh milk to 20 ounces of sterilized whey and $^1/_2$ ounce of milk-sugar. To make a humanized milk more rich in fat, top-milk may be added in the same proportion. From a quart of fresh milk which has stood in a covered glass jar in a cool place for four or five hours, the upper 10 ounces are removed by skimming; this is added to 20 ounces of sterilized whey with $^1/_2$ ounce of milk-sugar. Analysis of mixt-

ures carefully made according to these directions from perfectly fresh milk of a good average quality will be about:—

	Proteids.	Fat.	Lactose.	Salts.
Human milk, average	1.75	3.5	6.0	0.3
Whey	0.80	2.0	4.5	0.6
Milk, 10 oz. Whey, 20 oz. Lactose, ½ oz.	1.75	2.5	6.0	0.6
Cream, 8 per cent., 10 oz. Whey, 20 oz. Lactose, ½ oz.	1.75	4.0	6.0	0.6

A grain or two of bicarbonate of soda should be added to render the mixture neutral or slightly alkaline. Dyspeptic infants may be given whey, or even dilute whey with a solution of maltose or barley-water, in the beginning of treatment. As they improve, milk, or top-milk, may be added to the whey. Henry Ashby (Edinburgh Med. Jour., Apr., '99).

NASAL ULCER.

Treatment. — The non-specific ulcers occurring on the floor of the nasal passages and upon the nasal septum are often due to a varicose condition of the nasopharynx. They may be treated as follows: After the partial removal of incrustation by raising the edges with a crochet needle, and using small forceps, hydrogen dioxide is applied with a small swab until every particle of the incrustation left is destroyed. The ulcer may be allowed to bleed freely, but the hydrogen dioxide is to be applied until the frothing produced by oxidation entirely ceases. The treatment should be given daily, and then at intervals, according to the loss of vitality to the circulation. Children under the ages of 10 or 12 are cured by giving suitable tonics, diet, and possibly by using hygienic precautions. H. L. Leffingwell (Phila. Med. Jour., May 27, '99).

PARALYSIS AGITANS.

Treatment.—In paralysis agitans, sulphonal or whisky and water, at bed-time, afford a good night's rest. One should also see that the bed is not too soft. Alcohol taken during the day as well as strong tea and coffee increase the tremblings. The patient's living-room should be well ventilated and not too warm. Systematic open-air treatment is valuable, carriage drives are very advantageous, and railway journeys are often beneficial. Although morphine hypodermically gives relief, it is objectionable, as the disease is so chronic. Hyoscine is the only drug which has been personally found useful. One-fourth grain should be prescribed in 6 ounces of chloroform-water, 2 teaspoonfuls of this being given; thus each dose corresponds to $^1/_{96}$ grain of hyoscine hydrobromate. The dose may be increased to $^1/_{75}$ grain. After some weeks the drug loses its good effect, when it is best to stop it for a time; the good results are again obtained by recommencing. R. T. Williamson (Med. and Surg. Review of Reviews, June, '99).

PRICKLY HEAT.

In the prevention of prickly heat, anything which tends to cause excessive perspiration must be avoided. Hot drinks are especially bad. A large quantity of any drink is injurious. Close, ill-ventilated rooms, too much clothing, and exercise will excite perspiration. The clothing should be as scanty as possible, and not made of wool or silk. Open-wove cotton material is the most comfortable. Excessive bathing, especially with the use of soap, seems to aggravate it. The removal of the natural grease of the skin under these circumstances is distinctly disadvantageous, and bathing should be performed with plain water. As regards curative treatment, the body should be

anointed with oil, the best preparation being a mixture of almond-oil and lanolin in the proportion of 8 to 1, and scented according to fancy. The body should be anointed with this night and morning, and gentle massage of the skin used at the same time. The skin is sometimes so excessively tender that anything like rubbing must be avoided. The excessive perspiration is liable to cause eczema intertrigo, so that drying powders for the axillæ, under large mammæ, and between the skin-folds of fat people are useful. On the prickly heat itself they seem to have little control. Temporary relief can be obtained by lotions of carbolic acid, of menthol, and of many other drugs, but lasting improvement is secured by the use of oil. Vaselin is not the equivalent of oil for this purpose. F. Pearse (New York Med. Jour., July 29, '99).

SALIVARY GLANDS, DEVELOPMENT AND NATURE OF TUMORS OF.

Results of a careful clinical, microscopical, and pathological study of the various tumors that occur in the salivary glands are summarized as follows:—

1. The incapsulated tumors of the salivary gland, and probably those which involve them from other portions of the cranium, consist of epithelial elements and a stroma that is of the nature of bone-cartilage.

2. They are benign when they present an organic arrangement, — as, for instance, the epithelium and connective tissue of a gland. They are malignant when this order is altered, and the epithelium, either from trauma or by operation, is found in a wrong relation to the surrounding tissues, as in the connective tissue of the parotid gland. It develops, then, without the early characteristic stroma. The latter is also wanting when the tumor is malignant.

3. Both components of the tumor—the epithelium and the stroma—develop from embryonal tissue in the Cohnheim sense. In the embryo the conditions for a common development are present, as the parotid as well as the submaxillary gland, before they are incapsulated, lie with individual acini close and firm in the periosteum of the inferior maxilla—*i.e.*, in the perichondrium of Reichert's cartilage. The cylindrical epithelium comes undoubtedly from the gland itself, perhaps also the pavement-epithelium, perhaps from the elongated layer of cells. Hinsberg (Deut. Zeit. f. Chir., B. 51, H. 3, 4, '99).

SANGUINAL KREWEL.

"Sanguinal krewel," which is a physiological preparation of iron made from animal sources—blood, salts, albumin, and small quantities of peptone being added—has been used with great success in chlorosis, phthisis, and neurasthenia. Sanguinal never caused any disturbance of the alimentary canal. This iron preparation is more certain in its action than any other. Bandelier (Therap. Monats., Mar., '99).

SANOSE.

Sanose should never be added to boiling liquids or shaken up with any fluid whatever until it is first prepared with cold, or, better, lukewarm, water or milk. This mixture must be carefully stirred until it forms a thin broth, which is now added to the food or drink, as the case may be, and the whole is raised to boiling-point. Sanose can be mixed with bread or biscuit, as much as 5 to 20 per cent. being added to bread without producing any unpleasant taste. The amount of salt should be increased when

baking the bread. Rolls or bread in Berlin contain 45 grains of sanose in each, and the biscuits contain 30 grains. The amount of albumin contained in four sanose rolls and three biscuits would be practically equivalent to a pound of meat. Biesenthal (Therap. Monats., May, '99).

SERUM-TREATMENT AND ITS RESULTS.

A table showing the absolute number of deaths annually and the death-rates per 100,000 population, from diphtheria and croup in several of the large cities of the world, notably, Paris, Berlin, and New York, where diphtheria antitoxic serum has been generally employed gives most striking testimony of the value of this remedy. In each of these great cities the death-rate has been reduced to less than one-half of the lowest death-rate recorded previous to 1894. In Paris the rate is about 30 per cent. and in New York about 29 per cent. of the rate for 1894. In 1894 there were 2970 deaths from diphtheria and croup in New York City; pneumonia and tuberculosis only exceeding diphtheria and croup in the number of deaths caused. In 1898 the deaths were 923; the number of cases of diphtheria and croup reported in 1898 is also below the number for any year since 1893, and the case fatality is lower, being 12.2 per cent., as contrasted with 40 per cent. for 1892, 36.4 for 1893, and 29.7 for 1894. The diminution in the actual number of deaths and the diminution in the death-rate per 100,000 population since 1894 has been greater in New York City than in any other great city in the world.

These data are in striking contrast with the conditions in London, where diphtheria antitoxic serum has been used to a very limited extent outside of the hospitals of the Metropolitan Asylums Board. While there has been some reduction in the number of deaths from diphtheria in London since 1893, it is inconsiderable. The present mortality is still greater than that in London previous to 1894, and is in great contrast with the reductions which have taken place in other great cities. In Chicago, during the month of November, 1898, according to the reports of the Department of Health for December, 1898, 168 cases of diphtheria were reported to the Department and examined bacteriologically. Of these 98, found to be true diphtheria, were treated with antitoxin. Four cases remaining over from the preceding month were also under treatment. Of the 102 cases 97 are reported as having recovered, 2 remained under treatment, and 3 died, giving a mortality of 3 per cent. in completed cases. Ten of the patients treated were intubated, so that diphtheria during the month was not of a mild form. Two of the 3 deaths were intubation cases, and all 3 of the fatal cases were first seen by the inspectors of the Department later than the fourth day. The results obtained in Chicago since the original introduction of the antitoxin treatment by the Department in October, 1895: During the succeeding 26 months to date the physicians of the Department have examined 5739 cases of suspected diphtheria. Of these 3956 were found to be true and all but 134 (treated by family physicians) were treated by the Department. Out of the 3822 cases thus treated 3763 recovered and 259 died, a mortality of 6.7 per cent. Before the introduction of antitoxin the mortality-rate of diphtheria in Chicago was 35 per cent. "At this rate there would have been 1337 deaths among the number actually attacked instead of 259 —a clear gain of 1100 lives in a space of

scarcely more than 2 years. Besides this there were 3633 persons immunized in families exposed to infection. Only 30 out of this number were subsequently attacked by the disease; they all had mild attacks and recovered." It is estimated by the Chicago Board of Health that in 26 months there has been a saving to the city of Chicago, thanks to diphtheria antitoxin, of 1713 lives. Herman M. Biggs (Med. News, July 22, '99).

SOMATOSE.

Somatose is offered in three forms: (*a*) somatose, pure and simple; (*b*) iron somatose; (*c*) milk somatose. There are many indications for the exhibition of somatose proper, but the chief are those cases where there has been great loss of flesh, with extreme debility from acute diseases, such as typhoid, pneumonia, etc., where the system requires fortifying and building up without delay, and during convalescence. It is also demanded particularly in cases of overgrowth and malnutrition. Further, it is especially valuable in those cases where the stomach is intolerant of, and rejects all foods, and where, as the result of high fever, the body-tissues are being consumed and burnt up, and exhaustion, prostration, and death are imminent. Ferrosomatose is an organic combination of somatose and iron. It does not produce any intestinal irritation, nor does it induce constipation; neither does it injure the teeth. It is the typical remedy in blood dyscrasias, especially in anæmia, rachitis, and chlorosis, and probably in the stages of convalescence from acute disease it is preferable to somatose pure and simple. The third preparation is lactosomatose, on the basis of milk-casein, and it contains somewhere about 5 per cent. of tannin. It is slightly astringent, and is highly useful for tuberculous children, infantile diarrhœa, and in chronic affections of the digestive apparatus, with anorexia and flatulence, accompanied with constipation or diarrhœa, and where there is a general want of food-assimilation. T. Joyntz-Wright (Scalpel, July, '99).

STRUMOUS OPHTHALMIA, TREATMENT OF.

In strumous ophthalmia, in addition to the careful supervision of diet, the free elimination of the toxins, which, as a result of malassimilation, have accumulated in the blood, must in every way be promoted. This is to be accomplished by stimulating the action of the kidneys, the bowels, and the skin,—more especially the last. Hence the importance of the hot bath, which the child should have every night at bed-time, diaphoresis being further encouraged by the wearing of a warm flannel night-gown. It is usually advisable first of all to administer a dose of castor-oil. Tartar emetic should be given in slightly nauseating doses, and its efficacy is greatly increased when it is administered with a laxative, *e.g.*, powdered rhubarb. If the tongue be brown, a few grains of gray powder may be added, with advantage, to the rhubarb and antimony combination. Any indiscretion in diet will promptly bring on a relapse, for in these cases the conjunctiva reflects the condition of the gastro-intestinal mucous membrane even more quickly than the tongue. The fear of relapse makes it imperative, therefore, that the treatment be continued for at least a fortnight after the recovery seems complete. Apart from simple digestive agents, such as pepsin, pancreatin, etc., no medicines are, as a rule, necessary, but most of the patients are benefited by quinine, which, either alone or in combination with an acid, seems to exercise

a favorable influence after the acute symptoms have subsided. Codliver-oil, compound syrup of the phosphates, syrup of the iodide of iron, etc., are also very valuable remedies, but they should never be prescribed in the early stages. When, however, all feverishness has disappeared, and the tongue is clean, they are decidedly helpful. All syrups, however, must be used with great caution. When there is much enlargement of the glands, a mixture of chloride of calcium and iron is very serviceable. For the first few days of the treatment the patient should be kept in bed, with the eyes shaded from the light; but the use of all poultices and bandages must be strictly prohibited. Whenever improvement begins, the child ought to be encouraged to run about, and, if possible, sent to the country, preferably a high, dry, bracing locality, and it should live out-of-doors as much as the weather will permit. The sea-coast should be avoided, as the glare from the water is apt to prove irritating to the eyes. The local treatment will vary according to the stage of the disease. The child's face and hands must be washed frequently, and, as far as possible, it ought to be prevented from crying and rubbing its eyes. The eyes themselves should be bathed night and morning—oftener if there be much discharge—with a warm solution of boric acid, or a solution containing perchloride of mercury and belladonna. While the symptoms of acute irritation last, atropine and cocaine lessen the photophobia. In order to obtain full benefit the drug ought to be reinstilled whenever the pupil begins to contract. As the blepharospasm lessens, the cocaine may be omitted from the ointment, and the atropine combined with boric acid or the red oxide of mercury. Even in cases which have lasted for a long time, leeches or blisters should not be used. After the acute inflammatory symptoms have somewhat subsided, calomel and the yellow oxide of mercury are the two favorite remedies. The former is most serviceable in relieving passive congestions. It must be dried thoroughly, and flicked with a camel-hair brush into the conjunctival sac. Its beneficial action seems due to the fact that the calomel becomes, by the action of the tears, converted into perchloride of mercury. It is, therefore, necessary to be careful not to use it to freely, or in too coarse powder, for any excess collects in the lower retrotarsal fold, upon which it is apt to have a caustic action. The yellow oxide of mercury is best applied in the form of an ointment of the strength of 1 or 2 grains of the oxide to a drachm of white vaselin. The bulk of a barley-corn of this is instilled into the conjunctival sac, and the eye gently massaged for a few minutes through the closed eyelids. In an ordinary case of strumous ophthalmia no further treatment than just indicated is required. If a case is not making satisfactory progress, careful inquiry should at once be made as to whether the prescribed diet is being strictly attended to, as well as the nightly warm bath. A. Maitland Ramsay (Edinburgh Med. Jour., July, '99).

THYOSANAMIN.

Thyosanamin is a resolvent for scar-structure, rendering it pliable no matter where situated. Derived as an extract from the oil of mustard by the addition of three or four times its weight of ammonia, it forms colorless rhombic crystals having a garlic odor and very bitter taste. It produces both diuresis and diaphoresis in doses of from 4 to 8 grains, three or four times a week. It should not be administered oftener than once daily. It has been injected in doses as high as

2 drachms into carcinomatous tumors without any stomach distress and without appreciable good effect upon the malignant growth. It has been recommended in cases of keloid, lupus, enlarged and tubercular lymphatic glands of the neck, sarcoma, fibroids, and syphilis. L. J. Willien (Med. News, July 22, '99).

TROPHONIN.

Trophonin consists of beef, egg-albumin, and the gluten of wheat in proper proportions and quantities to sustain life; it is predigested, and is absorbed without first calling in the aid of the digestive fluids, thereby aiding the reconstructive processes almost immediately. The dose is very small as compared with other forms of nourishment, and from 1 to 2 tablespoonfuls every two or three hours is easily taken in cases where the quantity of milk necessary to sustain life is not retained; it is vastly more palatable than any other nutritive of its class. In cases in which milk is digested in small quantities, trophonin may be used as a supplementary diet, thereby necessitating less milk and aiding in its digestion. It may be used as the only nourishment for periods varying from two days to three weeks. C. A. Dundore (Amer. Med. Quarterly, June, '99).

UTERINE RETRODISPLACEMENTS, TREATMENT OF.

The following operation is equally applicable to retroflection and version: It can be used almost equally well in the lean and obese. It requires little time, usually not more than five or ten minutes of intra-abdominal work. An incision is made at or near the median line above the pubes, and will usually not need to be more than 2 or 3 inches in length. The uterus is brought forward and a large ordinary full-curved needle, or, if the operator prefers, a needle may be used with the eye at the point, armed with a full-sized kangaroo-tendon, is passed under the peritoneum, directly across the anterior surface of the uterus, then along the interior of the round ligaments, or, when they are absent or practically so, the needle simply passes along the interior of the peritoneal fold which represents the course of the round ligament. When the abdominal ring is reached, the needle no longer follows the round ligament, but pierces the abdominal wall directly opposite the ring and emerges through the skin in contact with Poupart's ligament, near its middle on one or the other side. The needle is now unthreaded, the end of the tendon split,—say 2 inches,—one-half is again threaded into the needle and passed under Poupart's ligament to the opposite side of the same and the ends are next tied together over the ligament. This fastening of the end of the tendon of Poupart's ligament may be done through a small incision down to the ligament or subcutaneously. The other end is dealt with in like manner, enough tension being made to bring the uterus as far forward as may be desired and retain it in position. A little care is required to have the tension the same on each side. The long, round ligaments will thus be thrown into numerous folds and convolutions as it is taken up on the running thread. C. E. Ruth (Jour. Amer. Med. Assoc., July 22, '99).

WATER-DRINKING AS A MEANS OF REGULATING NUTRITION.

Cold water, unless taken in very large quantities or at meals, is decidedly less harmful to the stomach than hot water, producing a tonic instead of the debilitating effect which results from hot-water

drinking, through the tonic reaction induced.

Drinking hot water forty or fifty minutes before eating, in moderate quantities, as from $^1/_2$ to $^2/_3$ of a glassful, is certainly a good remedy for gastric catarrh, a disorder existing in a large proportion of all cases of chronic dyspepsia. In hyperpepsia, also, $^1/_2$ a glass of hot water, forty minutes before meals, and the same quantity two or three hours after meals is highly beneficial; but in all other classes of cases water administered with reference to local effects is better administered at the ordinary temperature. The quantity of water must vary according to the weather, the amount of activity, the sort of treatment administered, etc., especially if the patient is being subjected to hydriatric processes whereby the activity of the skin is greatly increased. In water-drinking, if properly managed, the physician has at hand one of the most powerful means of regulating all nutritive processes, and one which can be employed with perfect safety. The best time for taking water is ordinarily one hour before eating and three or four hours after eating. It is a good plan for patients to take a glass of water at bed-time and a glassful on rising in the morning, and to divide the quantity during the day as much as possible, so that the stomach may not at any time be overloaded with liquid. In cases in which a sufficient quantity of water cannot be taken by the stomach without inconvenience, the necessary fluid may be received through the colon. In cases of this sort a small injection of water at the temperature of the body may be administered at bed-time after the patient has retired. By means of a fountain-syringe, 1 or 2 pints may be slowly introduced into the rectum, care being taken to pass the tube as far into the bowel as possible, and to hold the fountain not higher than two feet above the level of the bed or couch, so that the introduction of the fluid may not be sufficiently rapid to provoke an expulsive action. Editorial (Modern Medicine, June, '99).

WIDAL REACTION IN TYPHOID.

The Widal reaction in typhoid fever does not permit an early unequivocal diagnosis of the disease. The reaction is an immunity reaction and not merely a reaction of infection. Due attention being given to the severity of the case, the stronger the reaction, the more favorable is the prognosis. The test has been personally made in 51 individuals who had had typhoid fever. In 20 cases the reaction was positive during the first year after the disease, and in 11 negative. Of those examined more than a year after the fever, 6 were negative and 11 were positive, 1 each after 14, $15\,^1/_2$, and 17 months, and 3 after $4\,^1/_2$, 2 after $4\,^3/_4$, and 1 each after 5, 10, 15, and 21 years. Of the cases in the first year after the disease, 64.5 per cent. were positive. Of 11 cases from the 2d to the 5th year after the disease, 8, or 72.7 per cent., were positive. If in a case suspected of typhoid fever the reaction is very strongly positive, it is connected with the present illness and not with a former attack of the disease. In children under 7 years, the reaction is feebler than in older persons, and it disappears earlier; nevertheless, it is in children perhaps the most valuable sign of typhoid fever. Kasel and Mann (Münch. med. Wochen., May 2, '99).

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Cyclopædia of the Year's Literature.

CHOREA.

Etiology.—Robert B. Preble[1] draws the following conclusions regarding chorea and rheumatism: 1. There certainly is some relation between chorea and rheumatism. 2. Rheumatism is much more frequent in children suffering from chorea than in children in general. 3. Rheumatism excites chorea by the selective actions of toxins upon the motor cells of the cortex, causing functional, but not structural, changes. 4.

[1] Canada Lancet, Apr., '99.

Rheumatism shares this relation to chorea with a great number of other infectious diseases.

Edwin Williams[2] lays particular stress upon a most important point in the treatment of this disease, namely: that each case is to be studied carefully, and that by repeated examinations only can the prime cause of each individual case be ascertained. When that is found it is to be treated first. It may have been a severe fright, or it may be eyestrain, adenoids, adherent prepuce, worms, or many other conditions which act as irritants to the nervous system.

Treatment. — In the treatment of chorea Milton P. Creel[3] states that nothing is of more importance than to maintain the nutrition of the patient. Patients with chorea should be fed systematically and adequately. Milk, predigested foods, and appropriate and available articles of diet are to be given regularly. The physician should not fail to direct the nurse as to how much food the patient should take in twenty-four hours, and see that the importance of attention to the nutrition of the patient is fully comprehended by the nurse or parents. Another matter of great importance is attention to the treatment of any co-existing diseased condition present. When anæmia is associated, an appropriate preparation of iron should be given. From the inception of the attack, cordial pascarnata is personally given. This remedy, by its tonic action on the nervous system, tends to quiet the muscular activity, and produce quiet of the nervous system, and the disease is brought to a shorter duration.

GOUT.

Complications.—In gout K. Grube[4] believes that the first manifestation of the involvement of the heart shows itself in the periodical appearance of irregularity in the action of the organ. This symptom is at first regarded as a dyspeptic sign. Later, there are palpitation, a feeling of a sudden suspension of the heart's action, of fainting, and of oppression in the cardiac region. Frequently the pulse-rate is much increased, although it may, though this occurs rarely, be retarded. Pain may be so violent as to cause great difficulty in distinguishing the affection from angina pectoris. The heart-sounds are sometimes found to be dull and slow, but no other abnormality is noticed. The diagnosis of gouty heart is based upon the following signs:—

1. The absence of any other causes: *e.g.*, alcoholism, tabagism, etc.

2. The presence of either regular gouty attacks or of such signs as headache, migraine, vesical disturbances, disorders of the alimentary canal, etc., for which no other cause can be assigned.

3. The history of an inherited tendency to gout.

4. The absence of organic heart-lesions.

Diet.—According to an editorial,[5] a writer in the Lancet says that Linnaeus, the great naturalist, was persuaded to take strawberries during a severe attack of sciatica, with the result that sleep was procured, and the pain greatly reduced. On the next day he ate as many strawberries as possible, and on the following morning the suffering had completely ceased. Gouty pains returned at the same date in the next year, but they were dispersed as soon as Linnaeus was able to obtain strawberries as diet.

The analysis of the strawberry shows

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[2] Memphis Lancet, Aug., '99.
[3] Charlotte Med. Jour., Aug., '99.
[4] Wiener med. Woch., No. 25, '99.
[5] Med. Mirror, Aug., '99.

it to be particularly rich in sodium salts and in spite of the high percentage of water this fruit excels all other common fruit in the amount of mineral salts. The chemistry of the strawberry therefore would teach that this fruit is likely to be beneficial in gouty states. According to personal observation, the strawberry is a most excellent diet for gouty victims, and so, too, are nearly all the other berries.

Treatment.—As to the local treatment of gouty joints, S. A. Bontor[6] regards rest, elevation, and warmth as the essentials during the acute attack. The application of cold is most dangerous. During the chronic stages, hot baths, such as those of Bath and Buxton, will be of service, as also the application of very hot, dry air. Electrical treatment is also advocated. The affected joint is placed in a 2-per-cent. solution of lithium citrate rendered just alkaline in lithium carbonate (advocated by Levison). Another convenient part—*e.g.*, the hand or foot—is placed in a solution of common salt; a current of 10 to 30 milliampères is then passed for half an hour. This form of treatment exerts a decidedly beneficial influence on those joints which have been rendered stiff and useless by large deposits.

SPRAINS.

Treatment.—Charles O. Files[7] calls attention to the use of static electricity in the treatment of sprains. His technique is as follows: A thick woolen shawl, folded many times, is carefully placed over the ankle and foot and the static-massage roller is used as strongly as the patient can bear it for fifteen minutes on the foot, ankle, and leg. The patient is seated on a stool on the floor, not on the insulated platform. The roller is attached by the chain to the positive pole of the static machine. "In saying that these patients will recover, when electrical massage is thoroughly used, in half the time required by other forms of treatment a very conservative estimate is made."

SYPHILIS.

Diagnosis.—Fournier,[8] in 4142 cases of syphilis occurring in his practice, found that in 193 cases of tertiary syphilis the patients denied that they had been or were infected. The causes of ignored syphilis are to be found (*a*) in the fact that women, knowing much less about syphilis than men, are more frequently infected without knowing it. (*b*) The frequency of extragenital chancres. Of 100 chancres, from 8 to 10 are extragenital. (*c*) Infantile, wet-nurse, and professional contaminations are often erroneously interpreted. Midwives and physicians are often infected, and do not know it. (*d*) Many cases of syphilis remain ignored, owing to the manifestations' having escaped notice or having been falsely interpreted. Mucous patches about the anus have been mistaken for hæmorrhoids; syphilides of the mouth and throat, for simple anginas; syphilitic cephalalgia, for migraine; osteocopic pains for rheumatism. (*e*) Often the woman is infected by her husband. On the first appearance of symptoms the husband rushes to the family physician and begs of him to reveal nothing. The wife, disbelieving that she has syphilis, refuses to take treatment for it. To obscure lesions, even if the patient denies syphilitic infection, syphilis may be the cause at work. Proceeding on this hypothesis, in

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[6] Treatment, July 13, '99.

[7] New York Med. Jour.; Pacific Med. Jour., Aug., '99.

[8] Jour. de Méd. et Chir. Prat.; Jour. Cut. and Genito-Urin. Dis., Aug., '99.

a large number of cases, excellent results have been obtained.

Alexander Haslund[9] says that in a case of secondary syphilis, where no ulcer or induration is found in the usual place, the genital organs, the entire surface of the skin, and mucous membrane should be examined for the initial sclerosis, and, as a rule, the scar will be found; if not, one must "hunt" for the primary glandular tumor, which, as a rule, is larger and harder than the other glands. If such a one is found, the skin or mucous membrane tributary to this gland must be carefully examined; in the most cases a cicatrix will now be noted.

The labial chancre has the most varied type of all chancres. It may look exactly like a typical Hunterian chancre—round, slightly elevated, with smooth, regular periphery and smooth, slightly-secreting bottom, easily bleeding, and, if not treated, covered with a crust. If starting from a labial fissure, it takes the shape of this and ulcerates, as a rule, always presenting a rent in the middle. Often, especially on the upper lip, the chancre gives rise to ectropium on account of pronounced induration and sclerotic œdema; it is this form of chancre which is often mistaken for carcinoma and excised by surgeons. The faucial chancre is round or oval, with regular, somewhat elevated margin and smooth bottom, and is surrounded by an injected zone. The tonsillary chancre is of irregular form and boundary, bottom uneven, and has extensive sclerotic œdema outside; induration easily felt. The dirty wound may look like diphtheria and be mistaken therefore, but it lasts longer, there is no fever, and secondaries will appear. The faucial chancre is tender to touch and the patient complains of difficulty in swallowing. The primary adenitis is, as a rule, very large, tender, and painful, and its site is always in the retromaxillary region. The digital chancre is varied according to its location, and is often mistaken for felon. The mammary chancre is usually located at the base of the nipple and half-moon shaped, with but little induration. Chancres on the body are usually extensive and of oval form.

Katzenstein[10] states that children of syphilitic parents, in whom the well-known symptoms of typical syphilis are absent, present a long series of phenomena which are absolutely necessary for a proper diagnosis. Anæmia is the most frequently detected and most frequently occurring. The children occasionally look pale, and this pallor has a certain yellowish tint. Enlargement of the liver and spleen is a very constant accompaniment of this anæmia. These children may be frequently very well nourished. Children with parasyphilis frequently suffer with a chronic intestinal catarrh, which will be rapidly cured by an antisyphilitic treatment. Syphilitic children frequently suffer with a bronchial catarrh, where no specific disease can be demonstrated. These bronchial affections are usually also accompanied by other parasyphilitic symptoms, and can only be rapidly cured by combining a causal with the symptomatic treatment. A chronic coryza evidenced by more or less suffering is only very rarely absent. A certain number of these children are born prematurely and are under weight. Others will be born at term and in normal labor, but the developmental disturbances will occur later. These children are, as a rule, those which succumb to atrophy, where the physician is unable to recognize the true cause of the latter. Two other important developmental de-

[9] St. Paul Med. Jour., Aug., '99.

[10] Münch. med. Woch., xiv. 1116, '98.

fects are frequently found in families where syphilis is present: spina bifida and chronic hydrocephalus.

Some of the results of secondary syphilis, which are important owing to the fact that they are difficult to diagnose in the absence of distinct history, and from the fact that they are much more frequent in women than in men, are pointed out by Fournier.[11] The first of these is headache, which may be divided into three degrees. In the first it is troublesome, but does not interfere with the ordinary vocations. In the second the pain simulates migraine. In the third the pain is so severe as to render any exertion or employment impossible. It is accompanied by vertigo, ringing in the ears, and in many cases there may be a profound melancholia. The pain may be constant or intermittent. In the first it is more severe toward the evening; in the second form it comes on every evening between 5 and 7. Antisyphilitic treatment is followed by an astonishing relief of the symptoms. Another manifestation is insomnia. In many instances this may be due to headache, but in other cases there may be no headache or other symptom, the patient passing several nights without sleeping. Another phenomenon in secondary syphilis is asthenia. Like the other two symptoms, it is almost confined to women. There may be inability to stand or even to leave the bed. The heart-beats are extremely feeble and the pulse almost imperceptible. There is a dullness of perception affecting all the senses, and the trophic functions are greatly in abeyance. Malignant disease, tubercle, different forms of anæmia, etc., have been diagnosed. Vague neuralgic pains may affect the sciatic or different branches of the fifth nerve. Antisyphilitic treatment, more particularly preparations of mercury, should be tried in many cases of anomalous neuralgic pain.

In nervous syphilis C. W. Burr[12] thinks that headache is probably the most frequent cerebral symptom. It occurs in the secondary stage, during the syphilitic fever, and later. The usual headache is more or less persistent, with acute exacerbations of extreme violence. The exacerbations are periodical. The pain is most often worse at night. Insomnia is the next most frequent symptom. Sometimes it is the direct result of the intense headache, but not infrequently it occurs in the absence of pain, and is a pure inability to sleep, due to cerebral irritation. In the place of insomnia there may be intense somnolence, so that the patient finds it difficult to keep awake, and may fall asleep even while at active work.

In the secondary stage, before any gross organic change has taken place in the nervous system and more rarely in the later stages, there may occur a true syphilitic neurasthenia.

A characteristic of syphilis, one which bears some resemblance to hysteria, is the fleeting nature of certain symptoms. It is not uncommon for a patient to have a transitory oculomotor palsy, then a temporary aphasia, then a series of epileptiform convulsions, then a hemiplegia or monoplegia, or any set of them in any order, and finally, it may be, die of some non-syphilitic affection. But so far there has not been found any clinical type, any one group of nervous symptoms, of which we can say with certainty syphilis is the cause. Erb came nearest to the goal in his so-called syphilitic spinal palsy.

The mental symptoms of syphilis are manifold. Acute mania or melancholia may occur before there are any gross or-

[11] Jour. de Méd., Apr. 10, '99.
[12] Univ. Med. Mag., July, 99.

ganic nervous changes; and, from the symptoms alone and in the absence of a history or the physical signs of infection, it seems impossible to diagnose them. Some of the more chronic dementias can be diagnosed by the coincident brain and spinal-cord symptoms.

Sachs[13] calls attention to the fact that in 11 per cent. of the cases of syphilis of the brain the cerebral symptoms have appeared within the first half-year after the initial infection, and in 24.6 per cent. between six and ten years after primary sores. He has more frequently had reason to suspect and to prove the presence of constitutional syphilis from a study of the pupils than from any other symptom that a patient may have presented. The symptoms are, first, inequality of the pupils; second, irregular responses—one reacting to light and the other failing to respond; third, complete immobility of the pupil to light and accommodation; fourth, marked departure from the circular form where there has been no preceding iritis.

Oculomotor palsies, especially of the transitory kind, are often syphilitic in origin, and both these and immobilization of the pupils may be caused to disappear by vigorous treatment.

Arthur K. Stone[14] states that, while intrapelvic gummata are very rare, yet in any new growth unconnected with the pelvic organs syphilis must be at least considered in making the diagnosis, and the probability seems enhanced when, on looking over reports of sarcomatous tumors of the pelvis it is found that their usual seat is extrapelvic, rather than intrapelvic. The other tumors of the pelvis, exostoses and enchondroma, are usually easily eliminated by a careful palpation. Fibromata are rare and their origin doubtful, and they are certainly hard to differentiate. Echinococcic cysts are also difficult to diagnose except under extended observation, unless there be something in the history that should point directly to the true diagnosis. Early recognition and prompt and energetic treatment are necessary to the patient, because, if let alone, the tendency is for the tumor to break down and communicate with one of the neighboring hollow organs, as the rectum, vagina, or bladder.

According to Leonard Weber,[15] in endocarditis and myocarditis from rheumatism, and in alcoholic, the tobacco, the fatty, and the gouty heart, syphilis may, as a rule, be excluded, though it may occasionally complicate one or the other of these forms of heart disease. The signs of myocarditis in young individuals—such as weak pulse, with accentuated second sound, irregular action, tachycardia, or even bradycardia, faintness, dyspnœa on exertion, angina pectoris, general depression, and weakness—should always arouse suspicion of syphilis. In treating syphilis of the heart a judicious, prolonged, and repeated use of mercury in the shape of inunction or hypodermically is indicated.

St. Clair Thomson[16] emphasizes the fact that, when atrophic rhinitis attacks a child and its bilateral appearance cannot be satisfactorily accounted for, a very complete investigation should be made into the patient's previous illnesses and family history. If the suspicion of inherited syphilis is not then allayed, the child should have the benefit of the doubt by the administration of antisyphilitic treatment. Later on, if the characteristic changes are found in the teeth,

[13] New York Med. Jour., May 27, '99.
[14] St. Paul Med. Jour., Aug., '99.
[15] Post-graduate, xiv, p. 528, '99.
[16] Jour. of Laryn., Rhin., and Otol., Aug., '99.

the eyes, or the ears, these difficulties of diagnosis are, of course, not encountered.

Prophylaxis.—E. E. Mahon[17] states that a large number of those under treatment for syphilis and other venereal diseases have seriously impaired the efficiency of the British navy and army. In 1880 for primary syphilis 32,223 days were lost; for secondary syphilis, 128,059; and for gonorrhœa, 40,392. The figures for 1897 were: for primary syphilis, 96,335; for secondary syphilis, 49,764; and for gonorrhœa, 77,054. Intemperance is undoubtedly responsible for a large percentage of the cases; so that anything which can diminish the amount of intemperance will cause a decrease in the number of cases of venereal diseases. Good naval barracks should be substituted for depot-ships, advice should be given to young sailors as to personal cleanliness, early marriages should be encouraged, and preference should be given to healthy people in making appointments.

According to F. H. Welch,[18] the right future course to adopt for the prevention of syphilis lies not in any one isolated line of action, but in bringing to bear concurrently on the disease and its diffusing agencies all the power which our present civilization places at our disposal; and these are: (*a*) moral and religious advance—to strengthen the higher elements of our nature; (*b*) proper housing of the poorer classes—to render possible the growth of modesty and chastity and rational healthy amusements for mind and body away from our crowded thoroughfares—to curtail the present fostering influences of precocity and animalism; (*c*) social action—to facilitate marriage for those not having "the gift of continence," to remove the possible resort to selling the body for prostitution as a means of livelihood, and to curtail the twin contributing vice—intemperance; (*d*) municipal action—to prevent solicitation in the streets and public gathering-places and to remove the present temptations to youths of both sexes, to eliminate agencies and localities for the pursuit of vice, and to make in all ways prostitution difficult; and (*e*) hygienic rules—to necessitate from the votaries a prostitution-proof (in the shape of a periodical certificate satisfactory to a magistrate): a physical purity as a guarantee that in their illegitimate practice they are not disseminators of disease as well as of vice, to make sufficient and proper hospital accommodation for those not in a position to obtain adequate private treatment, and to furnish the means for compulsory segregation when necessary.

Treatment.—A. H. Ward[19] says that although no organism has been positively identified as the cause of syphilis, yet it cannot be doubted that the disease is microbic in origin. The following indications for treatment are of value: (1) to push the mercury to the toleration-point and keep it there, (2) to commence the course at the earliest possible moment, (3) to continue it throughout the normal period of evolution of the disease, (4) treatment must be easy and unirritating, (5) the general health must be attended to, and (6) the value of water as an adjuvant in removing the toxin. Mercury acts as an antiseptic, but an overdose poisons the patient and lowers his power of resistance; therefore great caution should be observed in debilitated persons. The course should last two years and iodide of potassium should not be given during the primary or secondary stage.

[17] Brit. Med. Jour., Aug. 19, '99.
[18] Lancet, Aug. 12, '99.
[19] Brit. Med. Jour., Aug. 19, '99.

Eighty-four cases of syphilis have been treated by Arthur Chopping[20] by the intravenous injection of cyanide of mercury. He finds it simple and with ordinary care unattended with any special risks. The part of the arm where the injection is to be made is rendered aseptic by washing and swabbing over with a solution of carbolic acid. The veins of the forearm or the bend of the elbow are chosen. A rubber tourniquet is applied to the upper part of the arm to make the veins stand out, and a fine needle of an hypodermic syringe containing 20 minims of a 1-per-cent. solution of cyanide of mercury is introduced into the vein chosen, and in the direction of the blood-stream. The tourniquet is then removed, and the fluid is injected into the vein, the needle is withdrawn, and an aseptic swab is applied with a small amount of pressure to the puncture for a few minutes. The injection is made every morning unless the patient complains of diarrhœa, or unless there is some other contra-indication. The injection is quite painless unless it has missed the vein, when it causes acute pain and swelling. The pain and swelling can usually be reduced in a day or two by means of hot fomentations.

The advantages claimed for this line of treatment are: 1. As the injection is made daily, the patient is under constant observation. 2. The exact quantity of mercury introduced into the system is known. 3. As the drug is administered by intravenous injection, the patient is rapidly brought under its influence: a marked advantage in cases where it is necessary to produce the full effect of the drug as speedily as possible, such as in iritis, otorrhœa, bad ulcerative laryngitis, etc. 4. The rapidity with which serious lesions and visible evidences of the disease clear up. 5. The treatment by intravenous injection is especially useful in cases which have not responded to the ordinary methods of treatment. In 3 cases polyuria occurred for a few days. In 2 cases diarrhœa occurred, which was easily kept under control by astringents and omitting injections for a few days. In 2 cases salivation occurred, which was controlled by astringent washes and mouth hygiene. In 3 cases there was a difficulty in making the veins sufficiently prominent. The average stay in the hospital per case was 23.2 days. All the cases, with one exception, showed very marked and rapid improvement. In the worst cases other adjuvants were used, such as codliver-oil, iron, and a correct diet, and in all cases special attention was paid to the general health of the patient. In the tertiary and in some of the rupial cases the iodides of sodium and ammonium were used.

C. H. Grier[21] speaks in favor of intramuscular injections in the treatment of syphilis; he has given 15,000 injections and has seen no harmful results.

Major F. J. Lambkin[22] thinks the treatment of syphilis must be long continued, for eight months or one year, and it is certain that most of the cases in the British navy and army do not receive treatment for nearly so long as this. By the intramuscular method treatment may be continued as long as necessary after leaving hospital, the men coming up for treatment once a week. He has given 20,000 injections and has had only 1 bad result and in that case an abscess formed. The following is preferred, as it causes but little pain: 1 drachm of mercury, 2 drachms of lanolin, and 4 drachms of carbolic oil (1 in 20); of this 10 minims are injected into the buttock.

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[20] New York Lancet, Apr., '99.
[21] Brit. Med. Jour., Aug. 19, '99.
[22] *Ibid.*

Cerebral and meningeal syphilis are successfully treated by J. Coplin Stinson[23] by intramuscular injections of insoluble salts of mercury. In tertiary syphilis a thorough course of treatment should be followed if one wishes a cure. Four series of injections should be given each year for three years or longer. If the salicylate of mercury is used and 2 grains can be tolerated at each injection, two injections should be given a week, and this treatment continued for about five weeks. When patients cannot stand this amount, they can be given about 1 1/3 grains of the salicylate at an injection, which is given three times a week. Between the series of injections 10 minims of saturated solution of iodide of potassium in water should be given three times daily. If there are urgent symptoms, this should be increased 2 minims daily until coryza and a few other symptoms of iodism appear, when the original dose may be resumed. The technique of the injections is as follows: 1. Four ounces of oil of sweet almonds are sterilized by boiling, and kept in a sealed sterilized bottle. 2. Pure salicylate of mercury that has been put up in a sealed half-ounce bottle, and prepared by some reliable firm—*e.g.*, Merck—is to be used. 3. The amount to be used for 1 injection is to be weighed out accurately on a clean paper. 4. The powder is then placed in an antiseptic small mortar and about half a drachm of the sterilized oil is poured in and triturated well. 5. The patient is placed flat on his stomach, legs extended; area of injection is disinfected with 1 to 500 bichloride-of-mercury solution. 6. The needle (two inches long) is sterilized by syringing with alcohol and bichloride solutions or by boiling. If bichloride is used, the needle should be wiped off at once with dry cotton. The syringe employed is one used ordinarily for aspirating (5 1/4 inches long, 3/4 of an inch wide), with a thumb and two finger-rings at the end of the piston. 7. The fluid is drawn into the syringe, stirring while doing so with the end of the syringe; the fluid is forced along the needle till it appears at the point, which is wiped dry with cotton. 8. The needle is then plunged vertically into the tissues the full two inches of the needle, the point being introduced about a quarter to half an inch above the junction of the inner and middle thirds of a line carried from the upper border of the great trochanter to meet the cleft of the buttock at right angles. 9. The oil should be injected slowly, and when the syringe is empty the needle is to be withdrawn, slowly. A little aristol or other mild antiseptic is now dusted on and a few drops of collodion poured on. In cases of syphilis with dyspnœa cocaine can be added with advantage, as it rapidly overcomes this distressed condition. It is of vast importance before beginning intramuscular injections to ascertain that the teeth are in excellent condition and that the kidneys are not diseased. Patients with nephritis should not receive large doses of mercury by injection. In all cases the urine should be examined once in awhile during the course of the treatment.

In syphilitic diseases of the brain and nerves James Taylor[24] recommends that the patient be mercurialized as soon as possible, and contends that it is best to do this by inunction. Iodide of potassium should be given in fairly large doses. Sixty grains should be given during the day, this dose doing as much good as if 90 or 120 grains were given daily. The main point, though, is to get the patient

[23] New York Med. Jour., Sept. 2, '99.
[24] Clin. Jour., May 3, '99.

under the influence of mercury as soon as possible.

G. Ahman[25] has used mercuriol in 30 syphilitic patients, with very satisfactory results. It is applied as follows: One and one-fourth drachms of mercuriol are put into a woolen or linen bag every day for the first five to ten days of treatment, and later only every second day. The duration of treatment varies between thirty and forty days. The same bag is in use for the whole period of treatment.

R. R. Campbell[26] does not believe that, under ordinary circumstances, any beneficial results have ever been obtained from the administration of mercury in the initial stage. The patient is to avoid intercourse during chancre stage. It is of the utmost importance that no escharotic or stimulating application be applied; the sore should be kept scrupulously clean by washing and covering it with a piece of lint, after dusting with calomel, crystallized iodoform, or an antiseptic powder.

In the early secondary stages protiodide of mercury, sometimes combined with either citrate of iron and quinine or taka-diastase, the dose ranging from 1 to 4 grains a day; or mercury tannate, from $1\,^1/_2$ to 3 grains a day; or mercury and chalk, in gradually increasing doses, may be advantageously used. In case results from giving mercury by the mouth are not satisfactory, hypodermic injection, fumigations, or inunctions must be resorted to.

Late secondary and tertiary lesions of the skin and mucous membranes; affections of the bones, joints, and periosteum; late-appearing affections of the eye, ear, cerebro-spinal system, and the viscera, the testes, and penis, require a combination of mercury and potassium iodide, or the mixed treatment. Patients who have followed a systematic and thorough course of treatment for the first year very rarely present any tertiary manifestations. On giving mercury by the stomach strict attention must be paid to diet, and the utmost care should be exercised as to condition of the mouth, teeth, nose, and pharynx. With these precautions, and the use of chlorate of potassium once or twice daily as a tooth-powder, intestinal disturbances as well as salivation will usually be avoided. In using inunctions the patient should first be instructed to take a bath at 100° F., and then sponge himself with a 2-per-cent. solution of carbolic acid. After having divided the body into the following 11 subdivisions—namely: 1 and 2, the arms, palms, and axillæ; 3 and 4, the legs and soles; 5, the neck and head; 6 and 7, the breast and abdomen; 8 and 9, the thighs, with groin and Scarpa's triangle; 10 and 11, the back from the seventh cervical vertebra to the lower part of the gluteal region—one or two of the parts should be selected for friction, and from 40 to 60 grains of freshly prepared and well triturated blue ointment, used for each inunction. If one employs a rubber other than himself, he should anoint the hands with a simple cerate in order that he may not absorb any of the mercury. If the patient's condition and *physique* is such as will permit, he should take two or possibly three Turkish baths a week. From fifty to one hundred inunctions may be given with proper intermissions, and then they may be stopped for a shorter or longer interval, as indications and conditions require. In women taking this treatment, tonics should at the same time be given. In congenital syphilis this, perhaps, is the

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[25] Arch. f. Derm. und Syph., vol. xlviii, p. 5, '99.

[26] Hot Springs Med. Jour., Apr. 15, '99.

only course of treatment that can be followed. Fumigation treatment is not to be followed as a routine plan. The patient is enveloped in blankets, India rubber, or macintosh covering lined with flannel and tight-fitting around the neck, and calomel, 20 to 40 grains, with a Maury or Lee lamp used to volatilize the salt and generate steam at the same time. They should never be taken after meals, but preferably at bed-time, the patient at once retiring. The time consumed, as in the inunction treatment, is thirty minutes. The disadvantages of hypodermic injections are stomatitis, gastro-intestinal disturbances, nervous phenomena, infiltration, fistulas, abscess at site of injection, pain, and embolism. The liquid injected must be chemically pure, sterilized and filtered, and the dose the smallest possible. Insoluble salts must be held in suspension in vegetable oil. As the emulsion changes quickly with the air, each dose should be separately and recently prepared. Its amount should double that intended, in order to fill the syringe. Site of injection for insoluble salts, intramuscular or subaponeurotic in the deltoid, intrascapular or subscapular regions, or buttocks. The soluble salts are used by intravenous, paravenous, subcutaneous, intramuscular, or subconjunctival injections. The skin and syringe should be thoroughly sterilized. The needle should be forced into the tissue alone, in order that we may always keep track of the tip, whether used within or outside the vessels. In intramuscular injections the needle should penetrate the whole length. The syringe is then attached and the liquid forced in slowly. Injections of soluble salts may be made every day or every other day, up to forty or fifty. Insoluble salts, eight to ten injections at intervals of from one to three weeks.

In the treatment of infantile syphilis William S. Gottheil[27] has employed Schering and Glatz's preparation of soluble metallic mercury, or hyrgolum, with the best results. The therapeutic effects of the soluble metallic mercury are apparently at least equal to the most powerful mercurial preparations ordinarily employed for internal administration. Three important good qualities were apparent in the new preparation. In the first case its solubility in water permitted the administration of the drug in any degree of dilution with absolute accuracy. Secondly, being tasteless, there was absolutely no difficulty in its administration. Finally, it seemed to agree with the infantile intestinal tract remarkably well, in no way interfering with the digestive processes. A 1-per-cent. aqueous solution of the drug is employed, administered in doses of from 3 to 20 drops thrice daily.

Katzenstein[28] states that in children with congenital syphilis treatment consists, first, in administering very minute doses of calomel and potassium iodide; second, in the prophylactic treatment of children yet to be born, by putting father or mother on a course of antisyphilitic treatment.

UTERINE FIBROIDS.

Diagnosis.—To make a positive diagnosis of uterine fibroid in the early stages of its development is not always easy, but, according to Thomas Fitzgibbon,[29] the following differential conditions should be considered, viz.: (1) pregnancy; (2) retained menses; (3) flexions; (4) malignant disease; (5) subinvolution; (6) inflammatory exudates.

A fibroid uterus is harder and more

[27] Internat. Jour. of Surg., Sept., '99.
[28] Münch. med. Woch., xiv, 1116, '98.
[29] Jour. Amer. Med. Assoc., Aug. 19, '99.

elastic than the pregnant, grows more slowly, and does not present the positive signs of pregnancy. Retained menses cause a tenesmus of the uterine walls, but not the hardness of fibroids, and the os will be found closed in cases of retained menses. Flexions may be differentiated by the use of the sound, which should always be resorted to under the strictest antiseptic precautions. Malignant disease may be known by the character of the discharge, age of the patient; and, to make a positive diagnosis, the scrapings of the endometrium should be examined with the microscope. Subinvolution is known by an enlarged cervix and the history of infection. Inflammatory exudates should not cause much hesitation in diagnosis, as they are accompanied by more or less febrile reaction, sudden onset, and acute pain.

Complications.—Doyen[30] thinks uterine fibroids are far from being a benign affection, for, besides the more frequent accidents, such as hæmorrhage and pressure symptoms, grave complications are apt to supervene, the most important of these being phlebitis, albuminuria, intestinal obstruction, and malignant degenerations. 1. Phlebitis in these cases is of infective origin, the starting-point of the infection being the uterine cavity. 2. Albuminuria may occur without either the volume of the tumor or the tension on the abdominal walls appearing to be responsible; it is found not only with incarcerated fibroids, but also with those that are mobile and even with pedunculated tumors. Albuminuria is, therefore, not a contra-indication to operation; on the contrary, it is often one of the most urgent of indications. The same may be said of serious hæmorrhage leading to marked anæmia; removal of the tumor and ligature of the arteries form the best means of hæmostasis. 3. Intestinal obstruction is sometimes the direct result of pressure, but in most cases it is due to fibrous bands and adhesions behind the uterus. These have occurred in several instances as the result of so-called "palliative" methods, such as electricity and interstitial injections of ergotine. 4. Malignant degeneration may take the form either of sarcomatous change in the myoma itself or of epithelioma of the cavity of the cervix or the mucosa of the body of the uterus. The fact of the existence of a myoma is not necessarily an indication for operation; if the size of tumor remain stationary, the patient should be kept under observation and examined three or four times a year. But if it is increasing in size and inducing the complications above mentioned, operation becomes necessary.

Prognosis.—T. Fitzgibbon[31] considers the prognosis in the great majority of cases of uterine fibroids good, in as far as life is concerned, providing the growth does not begin too early in life and grow so large as to cause death by pressure, or in the submucous or interstitial varieties does not cause death by oft-repeated hæmorrhages, or by some malignant or cystic degeneration's taking place in the tumor.

Treatment.—W. A. N. Dorland[32] regards thyroid therapy as especially indicated in hæmorrhagic affections of the uterus and all forms of pelvic congestion, notably in uterine fibromata, the best results being in cases of recent development. It is well to administer the thyroid in tablets, pastilles, or capsules—in doses of 2 1/2 to 5 grains three or four times a day, the drug being discontinued for a period of a week or ten days at regu-

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[30] Lancet, Aug. 26, '99.
[31] Jour. Amer. Med. Assoc., Aug. 19, '99.
[32] Therap. Gaz., July 15, '99.

lar intervals during the course of the treatment.

W. H. Walling[33] says that in fibrous enlargement of the uterus, intra-uterine, anodal galvanization is the most effective and the most prompt method of treatment. The technique is as follows: A large, well-wetted pad is placed on the abdomen; upon this is laid a large metal plate, connected with the negative binding-post of a galvanic battery. A platinum or carbon electrode connected with the positive post is inserted into the uterus and the current is turned on, 30 to 50 or even 75 milliampères of current being used and applied to the whole surface, as far as possible, for three to five minutes, according to the intensity used. Carbon electrodes are preferable, as they are larger and more easily reach the whole surface. Sittings should be had once in ten days when strong currents are used; once in five to six days if mild or moderate applications are used. The hæmorrhage is at once controlled, the patient's strength conserved, and a cure effected. The positive, or anodal, pole is used in the uterus, as it is the hæmostatic pole.

Alluding to the diagnosis and treatment of uterine fibroids, L. Landau[34] states that it is impossible to differentiate between the varieties of uterine myomata from the clinical symptoms. Besides hæmorrhage, inflammatory and suppurative processes in the appendages or peritoneum are frequent complications. True sarcomatous, or, if the primary tumor is an adenomyoma, carcinomatous degeneration, has been observed not infrequently. Ascites may accompany simple tumors, and does not necessarily indicate malignancy. This malignant degeneration is especially apt to occur at the climacteric period. The good effect generally attributed to the menopause is seen only in exceptional cases. Oöphorectomy has the same effect on fibroids as the natural menopause; it may succeed, but more often fails. Palliative local treatment of the hæmorrhage by curetting the mucosa is often useless and may be dangerous. The real explanation of the bleeding is to be found in the impossibility of a myomatous myometrium contracting equally and effectually. A radical operation should be performed more often than is the rule. When an operation is decided on the methods are practically two: (1) conservative myomectomy; (2) total hysteromyomectomy (panhysterectomy), both of which can be performed either *per vaginam* or by laparotomy. Vaginal myomectomy is indicated chiefly for solitary fibroids; larger tumors may require the abdominal operation. Abdominal hysterectomy should be the last resource.

Schauta's[35] personal experience is founded on 424 cases of operative treatment of myoma uteri with opening of the peritoneum. As to general indications, he holds that tumors are only to be treated surgically in cases where all other treatment has failed. When they merely exist without causing pain or other symptoms it is not justifiable to operate. The palliative operations are curettage and castration. They are generally to be set aside as inefficient and very often dangerous and should be reserved for very small intramural tumors.

Vaginal operations: The removal of pedunculated submucous tumors can be effected through the dilated cervical canal. For broad-based submucous myomata it is necessary to dilate and sometimes to cut open the cervix. Enucleation is only indicated when part of the

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[33] Med. Brief, Aug., '99.
[34] Berl. klin. Woch., July 3, '99.
[35] Lancet, Aug. 26, '99.

tumor is borne. The operation must, on no account, last more than one *séance* on account of the danger arising from possible sepsis or gangrene.

Abdominal operations: Four procedures require consideration: 1. Abdominal enucleation for the removal of pedunculated myomata. This is called for only in cases of isolated tumors not larger than a man's fist; the indications are therefore rare. Schauta performed enucleation 25 times, with 5 deaths, of which 3 occurred from embolism and pneumonia. 2. Supravaginal amputation; extraperitoneal treatment of the pedicle. It should be practiced only on exceptional or urgent cases. 3. Intraperitoneal treatment of the pedicle. He has done this operation only 3 times, twice with fatal results. 4. Abdominal total extirpation. The only objection to this method is its difficult technique and a slightly higher rate of mortality than with the extraperitoneal method. He obtained the following results:—

Out of 106 operations there were 12 deaths—*i.e.*, 11.3 per cent.; only 10 of that number, however, were the direct result of the operation. His technique is as follows: After eventration of the tumor the broad ligaments were secured on either side by forceps, two on each side; he then made the incision of the serosa and detached the bladder as far as the insertion of the vagina; the parametria were clamped quite near the uterus and the incision of the uterus was made. Two clamps were also placed right and left of the lateral vaginal pouches and the vagina was opened right and left. The tumor was now held by a narrow bridge formed by the anterior and posterior vaginal walls. This bridge being similarly secured by two curved clamps, the uterus was severed. For the clamps ligatures were now substituted, which were not cut short, to be used for drainage, and finally the peritoneum of the bladder was united with that of the posterior vaginal wall.

For soft fibroids of medium size Hector Treub[36] generally begins by injections of ergotine or by electricity. From this treatment he has found radical cure in some cases and symptomatic cure in others. His operation cases were 76 in number.

Baldy[37] says that the first stage in the treatment of fibroids is removal of the tumor independently in the question as to what becomes of the uterus; the second stage represents an attempt to remove the tumor or relieve the symptoms without removing the uterus; this stage is illustrated by such procedures as oöphorectomy, curetting, and electrical treatment. The third and final stage comprises the two operations of myomectomy and hysterectomy. The choice in performing these operations lies between the vaginal and the abdominal routes. Of these he prefers the abdominal plan.

According to T. Fitzgibbon,[38] ergot stands at the head of all drugs in the treatment of fibroids. If ergot is not well borne by the stomach, it should be given hypodermically or in rectal suppositories. Hydrastis Canadensis has a very beneficial effect in controlling the hæmorrhage. Manipulation may be necessary in order to elevate an incarcerated tumor in the pelvis, intra-uterine tampons by means of long strips of iodoform gauze, every forty-eight hours during the periods, and it may be necessary while the patient is being prepared for the operation. In the palliative surgical treat-

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[36] Lancet, Aug. 26, '99.

[37] *Ibid.*

[38] Jour. Amer. Med. Assoc., Aug. 19, '99.

ment, curetting is always indicated from the fact that in nearly all cases the mucous lining of the uterus is in a state of inflammation. Radical abdominal operations are adapted to the large subperitoneal and interstitial tumors, the consensus of opinion at the present time favoring the intraperitoneal method. Subserous fibroids, if pedunculated, may be removed by myomectomy. To control the hæmorrhage during operation a ligature may be thrown around the upper part of the cervix, a wedge-shaped incision made, and the parts drawn together after removal of the tumor by one or more rows of interrupted catgut sutures. In cases where drainage is necessary, this may be done through the vagina or stitching the uterine wound into the abdominal incision and packing with gauze. In supravaginal hysterectomy the usual preliminary preparation of abdomen, bowels, and vagina is necessary. The abdominal incision should be made high, lest the bladder be injured on account of its malposition. Complete removal is indicated when the uterus is septic, or undergoing malignant degeneration, or when a thorough vaginal drainage is needed. The mortality of complete abdominal hysterectomy in the hands of the average operator should not be more than 5 or 10 per cent.

X-RAYS IN PRACTICE.

X-rays as a Means of Diagnosis.—Pierre Merklen[39] had two severe cases of intercostal neuralgia, complicated by irritation, extending down the arm. The pain was continuous with paroxysmal exacerbations. Diagnostic results were obtained by the radiograph, showing spondylitis of the upper dorsal region in one and aneurism of the aorta in the other.

Aug. Hoffman[40] says movement of the heart can be readily seen, especially in the lower third of the left border of the heart, with the Roentgen rays. On several occasions arhythmia has been noted in the well-marked Roentgen picture. The most frequent forms of cardiac irregularity are the pulsus bigeminus and the pulsus alternans. It may be difficult to recognize the kind of arhythmia present if the alternate and unequal beats do not reach the radial artery.

Wagner[41] has proved both clinically and experimentally that phosphatic calculi may be detected by the x-rays. All depends on the time-exposure. The less the resistance, the longer must be the time.

Ringel[42] has reached the conclusion that the uncertain results attending the use of the Roentgen rays, in cases of supposed renal calculus, are due to the fact that the transmission of the rays is influenced by the chemical composition of the calculous deposit. While an oxalate calculus forms a well-defined picture, a urate calculus presents but an indistinct outline, and a phosphatic calculus is almost, if not quite, invisible. The renal calculus which might be discovered by the use of the rays are those least frequently met with. The application of the Roentgen rays is still more unsatisfactory in cases of vesical calculus.

To appreciate the meaning of a sciagraph requires as much experience as the technique of taking them, and to the casual observer a plate that shows a few uncertain shadows can be interpreted with no uncertain meaning by an experienced eye.

Regarding the technique of picture-

[39] La Presse Méd., July 8, '99.

[40] Deut. med. Woch., Apr. 13, '99.

[41] Centralb. f. Chir., No. 8, '99.

[42] Centralb. f. Chir.; Pacific Med. Jour., Aug., '99.

taking. Robert Abbe[43] emphasizes the following details as essential:—

Delicate and fresh sensitive plates. Rubber tissue should be interposed between the patient and the plate to prevent perspiration's dampening the paper. The fluoroscope is useless. The photographic plate must be placed well up beneath the patient's back, including the last four ribs. As to the machine and tubes, whatever will make a good bone-shadow quickly will make a shadow of a calculus. In the radiograph of the normal loins there should be no shadow of the kidney-substance, the muscles, fascia, intestines, or abdominal wall which should resemble in any way the shadow of a renal calculus. Most cases of renal calculus in middle life can trace their earliest symptoms to youth; hence we may occasionally be able to detect small calculi in the easily-taken young subject by a quick exposure. As to how small a calculus can thus be discovered, an experiment may be noted. Seven calculi, 6 renal and 1 urate, were made the subject of the following experiment: A large kidney having been sliced open, and these calculi distributed within it, an amount of meat (beefsteak) was placed on either side, to make in all four inches' thickness. An exposure of 10 minutes and one of 15 minutes were made, and the subsequent development showed that the shorter exposure was more clear. The smallest stone, one-eighth of an inch, was perfectly appreciable. In the longer exposure this had almost disappeared from the plate. This was also shown in plates on which many stones of equal density were placed. The contrasting impression of an easily penetrable stone (such as urates) was greater with very short exposures. The most useful plates are those which at first sight seem failures. A wet plate may show nothing, but when dry and held in proper light, gives good results. A thin plate, looked at in broad daylight, shows nothing, but when held in front of a brightly-illuminated sheet of clean paper will give good shadow-pictures. A thin plate will often display shadows, when moved rapidly from side to side under proper illumination, which would not appear to the observer when it is held quiet. A dense plate that seems impenetrable will sometimes reveal exquisite detail of bone, etc., when illuminated correctly, either by direct or reflected sunlight, with a proper screening of the observer's eye. A properly closed box, like a fluoroscope, adapted to the size of the picture, screens the observer well, and allows him to interpret shadows correctly. Photographs never show as well as a study of the negative itself.

The discovery of renal calculi by radiography has been demonstrated in twenty-seven published cases, proved by operation. It is probable that in most people of spare habit, and in young subjects, a stone in the kidney can be found with reasonable certainty. The technical work of producing a successful radiograph is as yet not thoroughly studied out, but it seems probable that a quick penetrating focus-tube, with very short exposure, will show stones that would be lost by long exposure.

That a sciagraph may be misleading is shown by Curtis[44] in an x-ray picture, which revealed, apparently, a pin in the œsophagus. The child had swallowed a hat-pin, about 2 inches long, with a brass head, and the x-ray revealed a thin, dark body, like the shaft of the pin, in the œsophagus. The pin, however, was recovered shortly afterward in the stools, and the supposed pin was a defect in the

[43] Annals of Surg., Aug., '99.

[44] Annals of Surg.; Canada Med. Rec., June, '99.

gelatin of the plate,—but not a mere scratch which could easily have been recognized.

William V. Morgan[45] states that after making exposures running into the thousands, and upon subjects ranging in age from infants at the breast to 90 years, the only symptom of x-ray dermatitis seen resulting from examinations has been upon his own left hand. This burn occurred after making a number of exposures every day, at close range, for several weeks, and resembled a sun-burn that one might receive on a hot August day, and gave a little inconvenience. The only serious burns of which he has knowledge have occurred from a coil-machine.

The taking of x-ray pictures is justly falling into disuse. Various distortions and displacements may be apparent in a picture when none exists in the parts photographed; in fact, it is not justifiable to admit a sciagraph as evidence in a court of justice unless the various conditions of electrical current, tube, distance, time, sensitive plate, and position are all taken into consideration, and then the patient subjected to control sciagraphy by the opposing side in the controversy.

During the last year Morgan has devised three simple methods of localization any of which will give accurate results. The first method is as follows: Suppose one desires to locate a bullet in the hand, a piece of copper wire is bent around the hand at or near the supposed location of the missile. On exposure of the part to the rays the wire will assume an elliptical or fusiform shape (according to its obliquity to the reflecting platinum surface in the tube) or, when the centre of the anode-reflector, the distal and proximal surfaces of the wire, and the shadow on the screen are all in line, the wire will seem to be a single, straight piece stretched across the hand. The latter appearance is what is desired, and one should now move the wire bracelet upward or downward until it looks as if the piece of straight wire passes directly across the bullet. The location of the wire should now be carefully marked upon the skin. The bullet must necessarily be found directly between these lines. Its relation to the radio-ulnar surfaces will be found by looking in an antero-posterior direction, and its depth in relation to dorso-palmar surfaces must be determined by like examination from side to side. The same principles have been employed by adjusting two key-rings to rubber bands and placing the rings upon the opposite surfaces of the part to be examined. When the two rings appear as one ring and the foreign body lies in its centre, the localization for that direction is as definite as a mathematical problem. To make any localization complete, views should always be taken in two or more directions, and the conditions and positions of everything involved in the examination be thoroughly known and appreciated by the surgeon. In the third method 4 pieces of wire of equal length are taken, and 4 of the ends are soldered together in such a way that 3 of the wires shall be in one plane, and the remaining one be at right angles to the others. This part is called the "jack." In an examination for locating a foreign body the jack is to be held on the distal side of the body in such a way that the azygous limb shall point to the foreign body. When it points in this direction, and the fluoroscope is on the same level, only 3 limbs of the jack will be seen, whereas, if the jack is not properly placed, all four of its arms will be visible. All of these methods are of the most elementary kind, and yet are capa-

[45] Med. and Surg. Monitor, May 15, '99.

ble of giving as good results as are to be attained by the more elaborate and expensive instruments.

Walter B. Metcalf[46] has found that the stomach can be definitely outlined by the x-rays, its size, shape, and position being given. It is also possible to examine the transverse colon, fistulous tracts, cystic tumors, uterus, or bladder. This is accomplished by filling the stomach-cavities or tracts with what he has termed bismuth emulsion. In preparing for a sciagraphic examination of the stomach, the patient comes to the laboratory during the morning hours, having had no breakfast. The necessary clothing is removed, care being taken that no buttons or opaque objects get within the field. The stomach-tube is then passed, preferably while the patient is sitting in a chair. The stomach can now be filled with the bismuth emulsion, using enough to bring the organ to a point of complete distension. Now the patient is placed between the operator and the excited Crookes tube, when, with the fluoroscope, the outlines of the stomach may be noted, the lesser curvature showing perfectly. The stomach can be studied from different views, and one of the greatest values of the method lies in the fact that the effect of respirations upon the movements of the stomach can be noted, giving a definite idea of the normal movements of the organ and enabling the diagnosis of motor insufficiency. Radiographs, or shadow-pictures, as a rule, are unsatisfactory. The best work is done with the fluoroscope. The mica-plate static current is considered the best, most practical, and safest means of exciting the Crookes tube. The method presented gives an outline of the stomach, enabling one to note the change produced by gastrectasia, atrophy, stricture, hour-glass contractions, distortions, displacements, or adhesions produced by or as a part of malignant or non-malignant disease.

Francis H. Williams,[47] in speaking of Roentgen-ray examinations in incipient pulmonary tuberculosis, states that he has examined about 165 cases of pulmonary tuberculosis with the x-rays. His static machine has 4 revolving plates, 6 feet in diameter, and 4 fixed plates, 6 feet, 4 inches in diameter. He considered (1) cases with slight physical signs, but no râles; (2) those without physical signs; that is, whose lungs had been found normal by auscultation and percussion. It was shown in the second group of cases, 5 examinations with histories having been cited, that the x-ray examination gave warning of tuberculosis before any departure from the normal was obtained by auscultation and percussion. One reason for this is that, if the density is much below the surface of the lung as in central pneumonia, its presence is not recognized by auscultation and percussion, but a shadow of the consolidated portion of the lung is cast on the fluorescent screen. The shadow is also cast by a slighter degree of congestion than can be revealed by auscultation and percussion. He has proved experimentally by shadow-tests that a lung in pneumonia or tuberculosis if sufficiently diseased will offer ten or more times resistance to the x-rays than the healthy lung. The x-ray examination enables the physician also to recognize some old or latent areas of tuberculosis which might otherwise be overlooked. Tuberculosis may be associated with bronchitis or emphysema, and thus be more quickly recognized. He had 8 cases of the former and 9 of the latter combination in which the diagnosis was corroborated by the discovery of tubercle

[46] Phila. Med. Jour., Aug. 26, '99.

[47] Boston Med. and Surg. Jour., Aug. 24, '99.

bacilli. He claims that we have in the fluorescent screen a more ready, convenient, and delicate method of recognizing an abnormal condition of the lung than we have in x-ray photographs, and the screen has the advantage of revealing the mobility of the diaphragm and the heart.

J. E. Stubbert[48] has, for more than a year, been using the x-rays in the diagnosis of areas of tuberculous infection in their incipiency, depending upon the relative resistance to their passage through healthy and diseased tissues. Practice and knowledge of the fluoroscopical picture of a normal thorax are necessary for success. The patient is seated in a chair without a back, with a Crookes tube held between the scapula and the fluoroscopical screen in front of the chest. A dark cloth, placed over the tube and the patient's shoulders, concentrates all the light on his chest, and the outline of the thorax appears on the screen in front of the patient. The distance between the light and the patient should be about 1 inch. Having examined the apices, the fluoroscope is passed up and down the whole thoracic region in search for other foci of disease. It is important not to take the eyes from the instrument when sliding it over the chest, lest fine points of comparison be lost. Slight haziness indicates consolidation; circumscribed spots of bright reflex surrounded by dark rings, or in dark areas, indicate cavities. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickening over consolidated lung-tissue. Pleural effusions give black shadows, the upper level of which may be agitated by succussion. The shadows of the second stage of pneumonia and of tuberculous consolidation are identical. The reflex of emphysema and of asthma is abnormally clear, and the movement of the diaphragm is restricted. From a table of 100 cases comparing physical and fluoroscopical examinations, Stubbert believes that his own investigations and those of others have proved that: 1 The fluoroscope is an accurate agent for corroborating and extending diagnoses made by ordinary methods. 2. It is capable of demonstrating foci of tubercular infection earlier than they can be distinguished by the ear. 3. It shows unilateral or bilateral enlargement or displacement of the heart. 4. Emphysema, asthma, pleurisy, hydropneumothorax, and pneumonia are all easily recognized, and their limits demonstrated. 5. Thoracic aneurisms are recognizable in their early stages.

X-ray Complications.—Bronson[49] states that, while the x-ray burns differ from ordinary burns, they are similar to those sometimes produced, to a limited extent, by electrolysis, and there are other reasons for attributing them to electrical action rather than to the x-ray itself.

Sherwell[50] says the fact that some persons, when exposed to the x-rays, develop very severe lesions of the skin, while others, equally exposed, remain unaffected, seems to point to a personal idiosyncrasy. In one case coming under his observation an x-ray burn seemed to have resulted fatally, the ulceration being very extensive and death occurring from exhaustion.

X-rays in Treatment of Disease.—In regard to the influence of the x-rays on the sound and diseased skin, Zarubin[51] concludes that: 1. The x-rays are serviceable, especially in the treatment of lupus vulgaris; also in chronic eczema,

[48] Jour. of Electrother., Aug., '99.

[49] Jour. of Cut. and Gen.-Urin. Dis., Aug., '99.

[50] *Ibid.*

[51] Monat. f. prakt. Derm., xxviii, No. 10, p. 489, '99.

for destroying hairs connected with moles, and in some cases of varicose ulcers, acne vulgaris, lupus erythematosus, hypertrichosis, favus, psoriasis, elephantiasis, and freckles. 2. The x-rays may produce harmful complications, chiefly in the shape of dermatitis of varying degree, with necrosis, abscesses, and so forth; also alopecia; and in some cases the skin has become darker and the epidermis desiccated.

Edmund Schiff and Leopold Freund[52] found that to cause epilation it is necessary to use a current of 2 ampères, and voltage up to 11 $^{1}/_{2}$ volts. The light is placed at a distance of 20 to 25 centimetres from the patient, and the sitting must not exceed ten minutes. If it is desired to cause greater inflammation, the current may be increased to 3 $^{1}/_{2}$ ampères and 12 $^{3}/_{4}$ volts, and the vacuum-tube is placed at a distance of 10 centimetres from the patient's body. The sitting must here also be limited to ten minutes. In lupous patients the visible nodules became, first, dark red, and then separated, leaving distinct and well-defined depressions, which later on developed into small, very dark-red scars. The after-history appears to be satisfactory as far as the cases have been observed.

Leopold Freund[53] states that in using the Roentgen rays a mask of pasteboard covered with thin (0.5 millimetre) sheet-lead is fitted to the body, and has apertures corresponding to the parts of the skin to be treated. Powerful inductors, great intensity of the primary and high tension of the secondary current, proper for illuminating purposes, are unsuitable in the therapeutic use of the rays. The vacuum-tube is placed at 15 centimetres from the skin; so that the anticathode is opposite and parallel to the field of treatment. At first, daily treatments of five, afterward of from ten to twenty, minutes are given, and the distance of the tube may be gradually somewhat diminished. After the first two sittings it is well to pause for two or three weeks. The treatment is indicated in abnormal hairiness, and in all such skin diseases as are dependent on or are protracted by the presence of hair, sycosis favus, wounds in hairy parts, trichorrhexus nodosa, furunculosis, acne and lupus vulgaris or erythematodes, chronic eczema, and elephantiasis. The exposure of any part to the rays must be at once interrupted as soon as the skin becomes turgescent or bluish red or brown. Itching and erythema may be relieved by borax and lanolin (15 per cent.). In lupus the treatment may be more severe. To cure hypertrichosis permanently the treatment (three to five short successive sittings) must be repeated at intervals of from four to eight weeks.

Treatment of X-ray Burns.—S. Lustgarten[54] finds that a moist dressing is far preferable in cases of x-ray dermatitis to greasy applications.

[52] Wiener med. Woch., Nos. 22 and 24, '98.
[53] Wiener med. Presse, No. 31, '99.
[54] Jour. of Cut. and Gen.-Urin. Dis., Aug., '99.

Cyclopædia of Current Literature.

ALCOHOLISM AND ITS INFLUENCE ON MORTALITY.

In regard to the prevalence of alcoholism and influence on mortality, the following are some of the conclusions reached:—

1. Alcohol acts by destroying congenital immunity, increasing suscepti-

bility, favoring by its direct influence the development of pathogenic micro-organisms, lessening the absolute strength of muscles; obtunding the delicacy of the special senses, causing changes in the nervous system, whereby insanity is produced, the latter being transmissible; inducing inebriety, which is a nervous disease and hereditary, and increasing the death-rate both directly and also by its tendency to exterminate the race, and directly causing such diseases as cirrhosis of the liver and chronic nephritis.

2. As a result of the foregoing, infection is favored, the healing of wounds retarded, the infection of them by erysipelas facilitated, and the mortality increased.

3. The liability to infectious diseases, especially tuberculosis and pneumonia, is very greatly increased because of the increased susceptibility, diminished powers of resistance, greater readiness of germ-development, less care in providing against exposure or in providing proper clothing, and also because the portal through which death enters in a case of pneumonia is commonly the right heart, and, its absolute strength being impaired, the mortality is thus increased.

4. Alcohol is one of the most potent factors in the etiology of cirrhosis of the liver, chronic nephritis, general arteriosclerosis, and the non-inflammatory diseases of the heart.

5. Alcohol is the chief cause of most of the cases of murder, suicide, and many other deaths by violence and accident.

6. Alcohol has caused more deaths in Chicago in the last 3 years than has smallpox in the last 43 years.

7. At least a part of the mortality is fairly chargeable to the medical profession because of a want of knowledge of the action of alcohol, because of its improper use as an alleged stimulant.

8. Drs. Kerr and Richardson, of England, estimate that 10 per cent. of all the cases of death in England and Wales are due to alcohol. G. W. Webster (Quar. Jour. of Inebriety, July, '99).

ALCOHOLISM, PATHOLOGY OF.

Scarcely any disease, perhaps none, exerts so extensive a pathological influence as alcoholism on the organs, tissues, and fluids of the body.

The paralyzing effects of alcoholism extend throughout the nervous system, from its centre to its periphery. This paralytic effect is seen not only in the body, but in the intellect and moral sense. The principal degenerations in alcoholism are fatty, fibroid, and atrophic. Fat is substituted for normal tissues; alcohol withdraws water from the tissues, and thus they become dry and hardened and at length assume a fibroid character; through lack of proper nutrition the cells become shrunken and atrophied. By these degenerations the anatomical integrity of organs is destroyed, partially or wholly, and their functional activity is impaired. Thus the whole system suffers and in time becomes a wreck. Alcohol has been aptly termed "the genius of degeneration." J. W. Grosvenor (Quar. Jour. of Inebriety, July, '99).

ANGIONEUROTIC ŒDEMA.

In angioneurotic œdema the treatment so far has been very unsatisfactory. Pilocarpine, which has given such brilliant results in urticaria, has some control over this form, but will not prevent recurring attacks. The most that can be done for such patients is to put them in the best possible physical condition, and then maintain this *status*. Gastric and intestinal derangements should be carefully corrected. In this, calomel has proved to be the nearest approach to an intestinal antiseptic. When there is a

direct relation of the attacks, as there not infrequently is, to the ingestion of certain articles of food—as shell-fish, strawberries, etc.—and indulgence in alcohol and tobacco, abstention from these will give freedom from the attacks. The tonics—as iron, quinine, strychnine, arsenic, etc.—should be used when indicated. Galvanism, faradism, and static electricity, as well as judiciously applied hydrotherapy, give a wide field of usefulness here. All attempts at herioc methods should be carefully avoided. H. B. Baruch (Med. Rec., Aug. 19, '99).

BLOOD-PRESSURE, EFFECT OF BATHS, ETC., ON.

Cold immersion-baths of plain water raise the arterial pressure and lower the venous; with the appearance of reaction the reverse is observed. Hot immersion-baths of plain water lower both the arterial and venous pressure; the same results are obtained, and even in a more pronounced degree, when Turkish baths are employed. The pulse-rate is greatly increased. Saline baths at warm temperatures lower the arterial pressure to a greater extent than plain-water baths at the same temperatures, but the venous pressure is raised relatively to the fall in the arterial pressure; the latter is still more lowered, and the venous pressure becomes almost absolutely raised, when the amount of saline material in solution happens to be a considerable quantity in the baths employed.

Dry massage lowers the arterial pressure, and relatively or absolutely raises the venous; but if the abdomen be vigorously massaged a rise in all pressures occurs; or, if warm temperature be added, effect upon the venous pressure is more marked. In exercise the venous pressure is always raised, the state of the arterial pressure depending upon the degree of severity of the work done. After exercise, moderate or severe, the arterial pressure falls; the venous, however, remains raised. W. Edgecombe and W. Bain (Jour. of Physiology, vol. xxiv, '99).

CANCER OF THE UTERUS.

To aid in the early diagnosis of cancer of the uterus, the following points may be of value, although all may not be applicable to every case:—

1. The unusual friability and vascularity of the tissue, which if not detected by the finger, may easily be made apparent by hooking a tenaculum into the suspected area. The tenaculum will immediately tear out and cause abundant bleeding from the carcinomatous tissue.

2. A close adhesion of the mucous membrane of the portio to the parenchyma.

3. The difficulty in cervical dilatation as evidenced by the introduction of a tent. In a cancerous process there is, as a rule, a continuance of the hardness after dilatation.

4. Bleeding is easily provoked by an examination or by any unusual exertion or manipulation.

5. The characteristic induration of the cervix is almost imperceptible at first, but increases as the disease progresses.

6. Puncture of any suspected nodules or follicles will differentiate carcinoma from cystic follicles or distended glands.

7. Ulcerated or eroded areas which are not speedily amenable to treatment should be regarded with suspicion.

8. Any enlargement of the uterus occurring after the menopause is usually due to malignant disease. (Fisher.)

9. An early diagnosis can only be made with absolute certainty by microscopical examination of either an excised wedge from the suspected cervix or, in cancer of the body, of portions of the endometrium

removed by curettage. The value of the examination will depend upon the experience and competency of the pathologist. Wilmer Krusen (Phila. Med. Jour., Sept. 2, '99).

CARBOLIC ACID IN TREATMENT OF MASTOID WOUNDS AND CHRONIC SUPPURATION OF THE MIDDLE EAR.

For the past three months pure carbolic acid has been personally used in the treatment of mastoid wounds, chronic suppurative otitis media in which necrosis existed, and in the sinuses so often found in mastoid wounds which are so difficult to heal. The treatment has proved very helpful. The carbolic acid is prepared by adding simply enough water to the crystals to hold them in solution; at first the applications were all made by means of the cotton probe, but in the attic cases, in order to get the carbolic acid into contact with the tissues, a spray-apparatus was made, with the tube so finely drawn that it was possible to introduce it into the aural canal and spray the acid into the attic and middle ear. This method has been found to be very useful and effective. In nearly all the cases in which this method of treatment has been adopted the suppurative process has almost immediately commenced to subside. That it has a helpful effect in necrosed conditions of the bone there can be no doubt. In several cases which had resisted all methods of treatment rapid healing followed its use. It causes pain and discomfort for a few minutes, but the alcohol is more painful than the carbolic acid. W. C. Philips (Med. Rec., Sept. 2, '99).

CHOLERA INFANTUM.

In the treatment of cholera infantum the main indications are to empty the stomach and bowels, to supply fluid to the tissues which are being drained, to promote the surface-circulation, reduce the temperature, and keep the patient alive until the disease has run its course. The surface-circulation may be restored and the temperature reduced by irrigations of cold water. Rubbing, mustard-baths, and warm packs may also be employed for this purpose. Stimulants are to be employed freely, atropine being the most useful drug, given in $^1/_{500}$ to $^1/_{800}$ grain. J. L. Morse (Boston Med. and Surg. Jour., Aug. 3, '99).

CŒLIOTOMY (LAPAROTOMY), AFTER-TREATMENT IN.

In the personal after-treatment of cœliotomy cases every reasonable kind of food in liberal quantities is allowed, as early as twenty-four hours after the operation. Two things are achieved thereby: the bowel containing fæcal matter in moderate quantities experiences the most physiological impulse to begin action and requires very little attention, the patients are not being starved and can keep up this muscular activity, which in its part contributes toward the physiological action of the bowel. Where cases present adhesions, where more or less raw surfaces are left on parietal peritoneum or bowel or pelvic organs, a well-filled intestinal canal and regular peristaltic motion, far from being detrimental, are really the only reliable means of breaking up old and preventing the formation of new adhesions. The objections which might be raised against this *régime* in cœliotomies have proved to be without foundation in personal work. Emil Ries (Jour. of Amer. Med. Assoc., Aug. 19, '99).

CONVULSIONS IN INFANCY.

All that is necessary during an actual attack of convulsions in most cases is to

loosen the clothing about the neck, chest, and abdomen, and to lay the child on its back with the head slightly raised until it recovers consciousness from the fit and the subsequent drowsiness. The placing of the child in a hot bath probably does no harm, and if the child be in feeble health it may be advantageous to use a mustard-bath. In cases, however, where the unconsciousness is unduly profound and prolonged and especially if with this further fits are associated, chloroform is most efficacious, and profound unconsciousness is no bar to its employment, recovery from the anæsthetic being usually accompanied by regain of consciousness. The inhalation of chloroform may be replaced or, in severe cases, followed by the rectal injection of chloral, in doses of 3 grains to an infant of 6 months, to which 2 or 3 grains of potassium bromide can be added. Any local irritation which may be regarded as an exciting cause of the fit calls for appropriate treatment. If it be suspected that indigestible food is responsible, an emetic may be given, followed by a calomel purge, and in very exceptional instances it may even be justifiable to lance the gums. In all cases small doses of the bromides should be given for a few days after the attack. Unless the fits recur, however, the bromides should be discontinued. The greatest care should be bestowed on the diet and on the thorough ventilation of the rooms occupied by the child both by day and night. The child's head should be raised during sleep and its feet kept warm. If the child be suffering from rickets, appropriate treatment for this complaint should be rigorously employed and mercury should be given if there be any sign of syphilis. In those cases where the convulsions recur with any frequency, even only once a month, a course of bromides should be prescribed. It is best to continue the administration of bromides until three months have elapsed since the last fit. If the bromides fail to stop the attacks, borax in doses of 2 grains for a child of 6 months may be tried. A. M. Gossage and J. A. Coutts (Brit. Med. Jour., Aug. 19, '99).

CURLED HORSEHAIR IN PLACE OF A SCRUBBING-BRUSH.

Ordinary curled hair forms one of the best mechanical devices for cleansing the skin. About 3 drachms of curled hair should be employed, and this is easily shaped by the hands into a loose pad about the size of the hand. It is easily cleansed with boiling water before and after each surgical operation. A solution of bichloride of mercury, 1 to 100, and steam to 100° do not act upon it. It may be kept in alcohol after being sterilized. W. S. Forbes (Penna. Med. Jour., July, '99).

CYSTITIS FAVEOLATA.

Symptoms.—The symptoms of "cellular cystitis," or "cystitis faveolata," are frequent urination, increased when the patient stands, and aggravated by exercise or jolting; paroxysms of pain during and a long time after micturition; and ammoniacal urine. At the end of micturition a sticky gray mass is discharged, similar to that seen in cases of chronic follicular prostatitis. In spite of the frequency in passing water, a good deal of residual urine, even in cases free from obstruction, can be drawn by catheter.

The cystoscope shows the honey-comb excavations, which are not to be confounded with real diverticula of the bladder. The latter are formed by the entire thickness of the wall, while the former are to be regarded as herniæ of the mucous membrane. The entrance to the diverticula, being smaller than the cav-

ity, appears in the cystoscope as a black aperture, while the excavations in cystitis faveolata, offering a broad entrance to the rays of the lamp, can be seen to the bottom. Excluding superficial cystitis by a thorough general and urinary examination, and stone in the bladder by the use of a stone-searcher, the presence of residual urine in many cases and the possibility of filling the bladder with a considerable amount of fluid help to eliminate cystitis dolorosa, contracture of the bladder, and pericystitis. In every case of cystitis uncomplicated by the existence of these cells, washing of the bladder with a few ounces of a normal salt solution will soon result in the injected fluid's coming back clear from the viscus, while in the disease in question it takes quarts of the solution to remove, and then only partially, the sticky mass from the many recesses. The fluid never returns perfectly clear and free from the pus-flakes.

Treatment. — The main principles in the management of these cases are: First, effective disinfection of the whole viscus, and especially of the cells; second, continuous drainage of the bladder, at least for awhile; third, general hygienic and dietetic measures. As the disease is usually associated with more or less deranged kidneys, one is compelled to discard antiseptics exercising an unfavorable influence upon their function—for instance, salol, naphthol, sandal-wood oil, carbolic acid, etc. Boric acid or benzoic acid in 4-grain doses every six hours will give much satisfaction. Urotropin in doses of from 5 to 8 grains every six hours can only be used for a short time. Small quantities of warm, non-irritating fluids injected by a glass hand-syringe are useful in clearing the bladder of pus. In this way it is more quickly and thoroughly cleaned than by large quantities thrown into the viscus by means of a fountain-bag, which has repeatedly caused rupture of the already-thinned bottom of the recesses. Eight ounces of a warm, normal salt solution injected successively in quantities of 1 ounce at a time removes a great deal of the pus, to be followed by 1 ounce of a plumbi-acet. solution (plumb. ac. bas., $^1/_2$ grain to the ounce of distilled water) and left in the bladder.

A suspension of chinosol, $^1/_{10}$ grain to the ounce of distilled water, is the best remedy for this condition. Under this treatment the condition of the urine improves rapidly, the irritation subsides, and the intervals become longer. At this stage Guyon's instillations of nitrate of silver are begun in the previously cleaned and emptied bladder: a very effective procedure, and not very painful, provided the patient is given a morphine or cocaine suppository fifteen minutes before the instillation, which should not be repeated oftener than once a week.

In cases in which the introduction of a catheter is very difficult and irritating, or in cases not responding to the injections in a few days, temporary or even permanent drainage of the bladder, and injections of the solution mentioned above, are indicated. Temporary drainage of the bladder is best obtained by suprapubic puncture or by a soft-rubber catheter, No. 8 English, inserted in the urethra, and secured by a silk thread and a piece of adhesive plaster in the usual way.

Still better are rubber tubes with a large central opening at the proximal end guarded with an obturator. The distal end is connected with a piece of rubber tubing, dipping into a corrosive sublimate solution, 1 to 2000, in a bag attached to the leg of the patient or in a vessel at the bedside.

The permanent pressure of a foreign body in the urethra, like every endourethral interference, is not without evil consequences for the kidneys of men in advanced age with sclerotic changes; quite often we are informed of the approaching danger by the tongue's becoming dry and the secretion of urine scanty. Immediate removal of the catheter and diuretics change the situation in a few hours; if the warning is neglected a uræmic attack with fatal result is inevitable. For these cases suprapubic puncture performed with Schleich's local anæsthesia is preferable.

All the well-known instructions as to diet and hygiene should be given. A permanent and radical cure cannot be promised. F. Kreissl (Medicine, July, '99).

CYSTITIS IN WOMEN.

Some form of local treatment is indicated in almost all cases of cystitis occurring in women. Even in acute cases, if the symptoms do not yield to the usual constitutional measures in a very few days, one should not hesitate to begin local treatment. Much benefit will result from a careful lavage of the bladder with any one of the mild cleansing solutions. The washing should be done under strict antiseptic precautions, care being taken not to overdistend the bladder. A very simple apparatus for the purpose is a pint jar with an opening at the bottom having a rubber tube attached and a two-way catheter at the end of the tube, filled with the desired solution. This may be a decinormal salt solution; or a solution of boric acid, 1 drachm to the pint of water, or, in cases of gonorrhœal cystitis, a solution of nitrate of silver $^1/_2$ to 1 or 2 grains to the ounce. After the urine has been carefully drawn, a small amount of the solution, 1 to 4 ounces, is allowed to flow into the bladder; this is drawn off or allowed to flow off, and the process is repeated until the water comes away clear. This proceeding, depending upon the severity of the case, can be carried out from one to three times a day. The patient should be confined absolutely to bed; the diet should be of the blandest kind (if possible, a milk diet should be insisted upon) and large quantities of diluent drinks should be prescribed. Other measures may be necessary, but, as a rule, the above treatment will be found efficient in most cases of acute cystitis.

The majority of cases of cystitis in women are of the subacute or chronic variety. These cases require many forms of local treatment, directed toward correcting the cause which has produced the cystitis. Uterine deviations and misplacements must be corrected, diseases of the ovaries and tubes and pelvic adhesions must be overcome, lacerations must be repaired, calculi removed, etc. In addition to lavage of bladder, treatment by direct applications to the bladder-walls through the endoscope is especially valuable in those cases where the disease is localized in one or more spots or areas in the bladder. The patient being placed in the knee-chest or in an elevated dorsal position, the endoscope is introduced, the bladder having previously been emptied. Its entire surface can be carefully inspected through the endoscope by means of the headlight. Spots of local inflammation can thus be treated by applications of much stronger solutions than can be used as a wash. Often one or two applications are sufficient for cure of cases. The most satisfactory solutions for most cases—especially of gonorrhœa, tuberculosis, and so-called solitary ulcer of the bladder—are the solutions of nitrate of silver from 5 to 20 grains to the ounce. As a last resort in those cases of

cystitis which do not yield to the measures indicated above, vesico-vaginal fistula should be established. The patient is allowed to be about, wearing a large pad of some absorbent material to take up the urine. The pad should be constantly changed and the parts kept scrupulously clean. This is best accomplished by frequent washing and the use of thick zinc ointment. At the end of a few months the mucous membrane of the bladder is restored to a healthy condition, and the fistula may be closed. J. B. Shober (Jour. of Med. and Science, Aug., '99).

DERMATOSES, GASTRIC ORIGIN OF.

Of 422 cases of dyspepsia studied, there were various dermatoses present (acne, eczema, prurigo, urticaria, hyperidroses, seborrhœic alopecia, herpes, etc.) in 129. Chemism of the stomach was also studied in 30 cases of simple prurigo or eczema, in which half complained of no gastric symptoms; but all presented signs of dyspepsia due to lactic- or butyric- acid fermentation. The last-named acid was found 28 times, while in 100 cases of gastric hyperæsthesia, taken hap-hazard, it was detected only 31 times. When, instead of having a latent dyspepsia these patients with prurigo presented symptoms of gastric disturbance, these were always attributable to dyspepsia from fermentation. Therefore it would seem that there exists a constant relation between prurigo and dyspepsia due to fermentation. Fluorides should be given in lactic-acid fermentation, and iodide of bismuth, sulphur, iodized sulphur, etc., in butyric fermentation. Robin and Leredde (La Sem. Méd., July 19, '99).

ELECTROLYSIS.

Electrolytic operations are quite painful because of the electrolytic action itself; therefore, to avoid much pain, the patient should be instructed not to touch the sponge until the needle has been introduced. Freezing the field of operation with methyl-chloride spray may be of value. When subjecting the normal skin or solid tumors to action of electrolysis, after a few applications it will be found that there is formed a certain anæsthetic area. The small point around the end of the inserted needle becomes white. A good plan is to insert the needle in a number of hair-follicles situated in the area rendered anæsthetic by freezing, and leave it in each follicle about five seconds. After the skin has returned to its normal condition, all these follicles will be sufficiently blunted as regards sensitiveness to permit the introduction again of the needle with very little pain. Wheals the size of a pea or larger should not occur, as they are a sure sign that the superficial layer of the epidermis has borne the brunt of the action and the deeper parts of the hair-follicle have escaped destruction. Foaming is, in the great majority of cases, a favorable sign as regards success. One should never leave a destroyed hair in place; the slightest traction of the forceps should be sufficient to remove the same. The percentage of returning hairs varies according to the precision and care with which the operation is performed. Patients with well-developed panniculus adiposus are especially well adapted for the operation, and only a minimum of the hairs will return. Thin persons with an inelastic skin are not good subjects. To treat and cure a case of general hirsuties requires many sittings. The removal of hairs growing on pigmented moles requires a longer application and a stronger current than for hairs growing on the normal soil. The mole should be destroyed simultaneously. Fred. J. Leviseur (Med. Rec., Aug. 19, '99).

ENURESIS NOCTURNA IN THE FEMALE.

The only method that gives regular and permanent satisfactory results in enuresis nocturna in the female is the elastic dilatation of the urethra, first suggested by Saenger. A short, straight urethral sound is introduced into the urethra, so that the end of the sound touches the trigonum; then the sound is pressed in different directions, so as to dilate the urethra downward to the left and to the right. Each dilatation should be made very thoroughly, and even forcibly, but each act of distension should be made only for a few seconds. This treatment is at first made daily; later on, every second and third day. A beneficial effect is noticed after a few sittings. This treatment must be combined with such other measures as the individual case may require. The patient is not to drink for several hours before retiring, and the bladder is to be emptied just before going to bed. A uric-acid diathesis indicates the use of lithium preparations; habitual constipation and parasites in the rectum may produce congestion in the pelvis and favor enuresis, and hence such causes must be removed. Masturbation, so often accused as a cause for enuresis, is, in most cases, a consequence rather than a cause of the same conditions that produce the enuresis, such as prolapse of the urethra, parasites, etc. Gustav Kolischer (Memphis Lancet, Aug., '99).

EPITHELIOMA OF THE VULVA.

Epithelioma of the vulva is liable to be confounded: (1) with simple vegetations, (2) with lupus of the vulva, and (3) with syphilitic affections; but the first, the simple, vegetations secrete a virulent liquid unlike the ichor of cancer; they readily yield to an energetic caustic which prevents their reproduction, and they have no hardened base, being remarkable for their softness. In the case of lupus, the vulva is red and presents scattered fungous ulcerations which are without any indurated base, while the syphilitic chancre is more limited and has a little circle of characteristic induration. Wilmer Krusen (Phila. Med. Jour., Sept. 2, '99).

EUCAINE B.

Of various local anæsthetics, the results obtained by eucaine B are by far the most satisfactory. A 2-per-cent. solution in a number of hypodermic injections is used in preference to stronger injections (up to 20 per cent.) which were used at first. The 2-per-cent. solution, if applied in the line of the cutaneous nerves supplying a part, paralyzes sensation over an area at least of the size of a 5-shilling piece, and this for the most part on the peripheral side from where the puncture has been made. For instance, if an operation is to be conducted on the skin of the middle of the thigh it is well to introduce the hypodermic needle in the line of the cutaneous nerves (middle, internal, and external) and two inches or so nearer Poupart's ligament. If an operation has to be performed on a finger the anæsthetic should be administered in the neighborhood of the digital nerves as near as possible to the web and on the palmar surface. If the seat of operation is over the middle of the deltoid, then the injection is made at a point near where the circumflex nerve winds around the outer side. The skin should be held tightly between the finger and the thumb on the proximal side of where the injection has to be made; then a long hypodermic needle should be thrust into the subcutaneous tissue and from 5 to 7 minims injected in 2 directions from one puncture. Three or four punctures are

made. One syringeful (20 minims) of the solution is generally used in three or four places and the syringe is again filled and used to moisten the wound or inject if necessary (40 minims in all). Anæsthesia is produced almost at once, and no suppuration follows the injection if the needle is boiled and the eucaine is prepared with boiled water. The length of anæsthesia varies very much—it lasts half an hour in most cases. G. G. Hamilton (Lancet, Aug. 26, '99).

EUPHTHALMIN.

Euphthalmin unites most of the advantages desired in a mydriatic in using the ophthalmoscope. Two drops of a 5-per-cent. solution produces in thirty-five minutes a maximal pupillary dilatation without appreciably affecting the accommodation, except for a slight dimness of vision caused by the diffusion of rays penetrating the pupillary orifice. In two or three hours the effects of the drug have entirely passed off. H. Darier (Therapist, July, '99).

FURUNCULAR EXTERNAL OTITIS.

For this disease, cotton-wool should be twisted carefully on a probe which may have a slight screw worked on it, but must not be knobbed. A tampon is made of uniform diameter, and of such a thickness as to fit tightly into the inflamed meatus, and long enough to reach the drum. The tip of the tampon must be cut straight across, so as not to taper. It is dipped in the following ointment:—

Oxide of zinc, 40 parts; carbolic acid, 6 parts; white vaselin, 300 parts; then warmed and dipped, and warmed three times. The tampon is then pushed into the meatus with a screwing movement, and, after removal of the probe, is left for twenty-four hours. The plug is removed at the end of this time, and the patient can renew it twice daily. This treatment gives better results than any other. Lamann (Monat. f. Ohrenheil., Feb., '99).

GASTRIC ULCER.

The class of cases of gastric ulcer in which an operation should be done are:—

1. In all cases of perforation at the very earliest possible moment; also in subphrenic abscess.

2. In cases of hæmorrhage (*a*) when there is continual oozing of blood, especially if the stomach be dilated, and (*b*) in cases of repeated severe hæmorrhage.

3. In cases where there is severe pain and vomiting unaffected by treatment, and which is producing progressive emaciation.

4. In cases of dilatation of the stomach from contraction within or from adhesions outside the stomach.

The operations to be performed are:—

In Class 1 laparotomy and suture of the ulcer; in Class 2 gastrotomy and suture of the ulcer, with a purse-string suture, combined with gastro-enterostomy; in Class 3 gastro-enterostomy, in order to give physiological rest to the ulcer; and in Class 4 either gastro-enterostomy or, if the pylorus be affected, pyloroplasty or pylorectomy.

No patient ought to be allowed to die either from perforation or from hæmorrhage from a gastric ulcer, without a surgical effort's being made to save him, and, the earlier such an effort is made, the better is the chance of success. Surgery offers much hope of success in other cases which resist the art of the physician. L. A. Bidwell (Amer. Jour. of Med. Sci., Sept., '99).

HÆMOPTYSIS IN PHTHISIS, TREATMENT OF.

The hæmorrhage which occurs during the first stage of consumption is due to

diapedesis and the rupture of capillaries in the inflammatory areas about the tuberculous lesions. It is usually salutary, and requires no treatment further than to endeavor to combat the local condition by means of increased nutrition through an improved circulation in the parts. Ergot, nitroglycerin, and quinine have proved beneficial for this purpose.

The hæmorrhage which occurs later in the course of the disease is due to the rupture of large vessels weakened by ulceration, dilatation, and removal of contiguous tissue. The establishment of a thrombus in the artery is the object of therapeutic endeavors. As experiments have shown, drugs possess little or no influence over the pulmonary arteries and the circulation in the lungs; this object can only be promoted by showing the heart's action by means of aconite and morphine.

The patient should be placed in a reclining position and fresh air freely admitted to the room. If the bleeding is persistent, movements of the chest may be limited by adhesive strips and the return-flow of blood from the lower extremities withheld by constricting the thighs. Ice-bags, by causing a contraction of the more healthy vessels of the lungs, are apt to be harmful through increasing the force of the circulation and the quantity of blood sent to the diseased parts. Benjamin F. Lyle (Phila. Med. Jour., Sept. 2, '99).

HEROIN.

Heroin is not so harmless as was formerly supposed. It has a far greater depressant action on respiration than is seen in the case of morphine. Heroin is also a cardiac depressant, and in addition gives rise to muscular twitchings and convulsions. The maximum adult dose at present should not exceed $^1/_{14}$ grain. Harnack (Münch. med. Woch., July 4, '99).

HYDROGEN DIOXIDE.

In a number of cases it has been noted that hydrogen dioxide has retarded the healing of a wound. In one case the daily use of this agent for four days enlarged the sinuses in the breast, resulting from operation for carcinoma, and was the means of carrying the infection beneath the axillary scar. The bad effects are due to the forcible dissemination of infectious material by the bubbling of the dioxide. The mechanical action exerted upon the tissues by this agent, during effervescence, is far greater than is supposed by many to be the case. For this reason it is unsafe to use it in infected wounds in certain locations, with or without pus; in abscess-cavities, either acute or chronic, where the walls are supposed to be weak; in closed cavities, and in the tissues surrounding the larynx and trachea, especially in young children.

ICHTHYOL IN PHTHISIS.

Ichthyol internally is strongly recommended for phthisis. Those who employ it will find that the necessity for morphine and atropine become rarer and rarer. It is best given mixed with equal parts of distilled water, of which 1 to 2 drops should be given in a liqueur-glass of water three times a day after meals. The dose is gradually increased up to 10 drops three times a day. Epigastric weight or pain denote that the maximum dose for the individual has been exceeded. Wertheimher (Münch. med. Woch., June 13, '99).

OTITIS MEDIA COMPLICATING SCARLET FEVER AND MEASLES.

Aural complications are present in about 20 per cent. of all cases of scarla-

tina. An important part of the treatment of this condition is its prevention, and this can be accomplished to some extent by proper care of the nose and throat. To properly cleanse the nose, the nostril of one side should be compressed, so that the entire force of the expiratory effort is expended upon the opposite, or free, nasal passage. In the class of cases here considered it is preferable to cleanse the nose and throat by swabbing with a $^3/_4$-per-cent. solution of sodium chloride. In carrying out the so-called abortive treatment, a sufficient dose of an opiate should be given to produce sleep; the bowels should be evacuated, and the patient protected from draughts of air. Dry heat should be applied in the form of a hot-water bag, or, if the pain is very severe, boric-acid solution at a temperature of 115° F. may be allowed to run into the ear. Local abstraction of blood by means of the artificial leech applied in front of the tragus often gives relief. In the early stage of middle-ear inflammation the treatment by inflation preferably by means of the catheter is personally advocated. With the inflation, suction of the tube and tympanum is a very useful addition to the treatment. If the symptoms continue unabated, or are less severe by day and worse than before at night, the opening of the drum-membrane should not be longer delayed. Incision of the drum is always excruciatingly painful, and hence the knife should have the sharpest possible edge. After the operation a little absorbent cotton should be placed loosely in the meatus, and the patient directed to lie upon the affected side to favor drainage. Irrigation should be resorted to only when the canal becomes blocked by tenacious mucus. C. H. May (Pediatrics, Aug. 15, '99).

OTITIS MEDIA FOLLOWING INFLUENZA.

In order to abort middle-ear inflammations, especially of those cases following the grippe, the attempt should be made early. Either a watery solution of atropine sulphate and cocaine muriate or a solution of the alkaloids of atropine and cocaine in oil of sweet almonds should be prescribed. In either case the strength of the solution is $^1/_2$ grain of atropine and 1 grain of cocaine to the drachm. The advantage of the oily solution is that it remains in contact with the tympanic membrane for a longer time, and, further, if there is a perforation of the membrane present it is not so likely to find its way through the Eustachian tube to the throat and produce constitutional effects. When the solution is to be put into the ear the patient should lie down with the affected ear up, and should be kept in this position for at least ten minutes, so that the solution may remain upon the tympanic membrane. A little cotton can then be put in the ear and the head raised. Eight drops of the solution (5 to 6 drops in the case of children) warmed, are used at a time. This means about $^1/_{15}$ grain of atropine. Where perforation of the membrane exists, one should be a little cautious, and should always speak of the possibility of constitutional effects, and advise accordingly. The instillations may be repeated three or four times a day as long as pain is present. In addition to this local treatment, small doses of calomel are to be given every hour or half-hour until the bowels are freely moved, and if the effect of the calomel in this respect is slight a saline cathartic is prescribed. The result of this plan of treatment, if only one sees the case in its incipiency, is usually extremely satisfactory. After the acute symptoms have subsided, the tinnitus and deafness which

are apt to remain are benefited by liberal doses of muriate of ammonia: 10 grains three or four times a day. If the pain is not controlled by the cocaine and atropine instillations, antikamnia or phenacetin may be administered, or, if necessary, morphine. If it is evident that the tympanum is distended with fluid a free incision should be made, preferably through the posterior portion of the membrane. One does not make a small puncture, but a free incision, beginning it well up and carrying it down parallel with, and close to, the posterior margin of the membrane. After this the ear should be syringed with a saturated solution of boric acid two or three times a day, and if this does not control the suppuration a solution of bichloride of mercury, 1-8000 to 1-4000, may be employed instead. Theobald (Johns Hopkins Hosp. Bull., July, '99).

OTITIS MEDIA OF DIPHTHERIA.

If fluids are forcibly injected into the nares of a child in the course of diphtheria, otitis will almost surely result. If the child dreads the injection, then irrigation from a fountain-syringe should be substituted, or, still better, the washing should be done with the aid of the nasal cup. It is personally believed that an infant's nose should be daily irrigated with normal saline solution. A. Jacobi (Pediatrics, Aug. 15, '99).

PALMAR ABSCESS.

In the treatment of palmar abscess an incision should commence at the end of the transverse furrow of the palm on the ulnar side and be carried almost its entire length across the furrow which winds around the base of the thumb and along this to the wrist. The skin is carefully dissected up from the palmar fascia and the flaps turned outward. Pockets of pus are curetted, tendon-sheaths may be examined and opened if necessary, and there is slight danger of cutting vessels or nerves. The cavity should be packed with gauze wrung out in hot mercuric-chloride solution, and the whole hand should be done up in an antiseptic poultice. The hand should be soaked in a hot antiseptic bath for an hour or so daily and the dressing changed. When the structures of the palm become covered with granulations, packing is no longer needed; the skin-flaps are then folded back and gradually brought together and a dry dressing applied. W. A. Brooks (Boston Med. and Surg. Jour., Aug. 10, '99).

PAROTID-GLAND EXTRACT IN OVARIAN DISEASE.

In 20 cases of ovarian disease the parotid-gland extract was used. In 5 cases the chief symptoms were severe dysmenorrhœa and pains in the ovarian regions and back. The local conditions accompanying these symptoms were enlarged, tender, prolapsed ovaries, varying in size, degree, and displacement. Upon the administration of this preparation, together with usual local treatment, the dysmenorrhœa was relieved and the enlarged and tender ovaries became apparently normal in a remarkably short period of time as compared with the usual local treatment alone. The following summarizes some of its effects as observed:—

1. It has seemed to relieve the pains of dysmenorrhœa in all cases, without regard to the supposed cause or pathological condition present, to a greater extent than any of the numerous so-called uterine sedatives.

2. It relieves those dull, aching pains referred to the back and ovarian regions, usually designated by those familiar, though vague and unsatisfying, terms: reflex pains, ovarian neuralgia, etc.

3. Menstruation, if deranged, seems to become more regular as to periodicity, less in amount, and shorter in duration.

4. During its exhibition, pelvic exudate seems to soften and become absorbed more rapidly under abdominopelvic massage.

5. The general health, strength, and spirits seem to improve during its use, and those dull headaches which constitute such a persistent and annoying symptom in these cases are almost invariably relieved, and in some disappear entirely.

6. The only counter-indication thus far met with to its use has been in cases of the artificial climacteric (following double salpingo-oöphorectomies), in which cases the flashes of heat and cold were made distinctly more frequent and severe. E. Pierre Mallett (New York Med. Jour., Aug. 26, '99).

PISTOL-BULLET WOUNDS, TREATMENT OF.

Hæmorrhage from the external wound may usually be controlled by plugging with iodoform gauze and firm strapping or bandaging. Wounds of deep vessels demand incision and ligation. The probe is the most dangerous factor in gunshot wounds after the immediate survival of the patient is assured. As a routine practice, probing gunshot wounds cannot be too strongly condemned. Whenever practicable the x-ray determination is the only proper method of locating a bullet. Unless the bullet has entered the abdominal cavity and below the level of the umbilicus, unless the condition of the patient clearly indicates that some effort should be made to remove it, no attempt to remove the bullet soon after the injury should be made. Later on, if it be superficial, or if it can be demonstrated that it is doing harm, then it may be removed, if it can be clearly located by x-rays. One superficial feature of pistol-bullet wounds found almost constantly is a destruction, probably by burning, of a rim of the skin immediately about the entrance-wound. This will surely necrose and should, as a rule, be excised, and, if the course of the bullet is very oblique and superficial, a linear incision should be made through the skin for a short distance, in order to assure proper drainage. The wound, and the skin for some distance about it, should be most carefully cleaned and disinfected; then the wound should be plugged with 10-per-cent.-iodoform gauze and an aseptic dressing applied. After this, perfect rest, if possible, of the wounded part should be obtained. Subsequent treatment should be carried out on general principles. W. L. Estes (Memphis Lancet, Aug., '99).

PNEUMONIA, SERUM-TREATMENT OF.

From six cases of pneumonia treated with antipneumonic serum, the following conclusion are drawn:—

1. That Pane's antipneumonic serum is the rational remedy in pneumonia, as it constitutes the specific treatment, the same as Behring's antitoxin does in diphtheria.

2. That injections with this serum are not painful, are simple to administer, and do not produce any general or local reaction.

3. That serum over five months old is no longer active and produces no results, although it does no harm; and after it is four months old it begins to lose strength, and the amount given after this time should be increased in proportion as the date of the preparation of the remedy is removed from the date of administering up to the fifth month.

4. That the serum will not do harm,

even if given in doses of 100 to 150 cubic centimetres in twenty-four hours.

5. That the serum in all these cases under personal observation has shown wonderful efficacy, not only in producing rapid movement of the general condition, but in hastening resolution in case it is given early in the disease.

6. That in any lobar pneumonia, especially if the prognosis is grave, it is the duty of the physician to use this serum, and if he fails to do so there is no excuse for such an act, except ignorance of the work that has been done in the field of the serum-therapy of pneumonia. A. Fanoni (New York Med. Jour., Aug. 26, '99).

RETROVERSION OF THE UTERUS.

For the treatment, without operation, of simple persistent retroversion, without adhesions or with laceration of the perineum or diseased appendages, the uterus should be replaced by bimanual manipulation, by forcing the cervix backward, or by knee-chest position and drawing the fundus forward. A pessary is then selected which will lengthen the vagina, thereby keeping the cervix back in the hollow of the sacrum, and whose posterior bow will force the fundus forward. Then a vaginal electrode is placed in the vagina, and an abdominal sponge electrode over the replaced fundus, and a slow-break faradic or sinusoidal current of electricity is applied as strong as the patient will bear without pain and for a period of five minutes. The patient is then instructed to get into extreme knee-chest position three times a day, and when in that position to open the vagina so that it will be distended with air, by retracting slightly with her finger the perineum. The patient takes the local stimulation of faradization three times a week, and at each time the uterus is examined to make sure that it remains in place. The surgeon should, by bimanual manipulation, stretch the shortened supports and force the uterus into extreme anteversion at each treatment. After a month's treatment the pessary is carefully withdrawn, the patient is instructed to avoid violent exercise, is cautioned to assume the knee-chest position in order to avoid a relapse, and to report the following day. At this time the parts are examined, and if the uterus has remained in position for twenty-four hours without support, one should be encouraged. The ordinary treatment should be applied and a two days' respite given. Frequently, after withdrawing the support the first time, at the next visit the patient will announce a failure. Another month or even two months' treatment should be advised. If a well-fitting pessary will not be tolerated, then at the end of each treatment, after the uterus is well in position, the patient should be placed in the knee-chest position and with the aid of a perineal retractor and a pair of dressing-forceps an elastic-wool tampon should be placed in front and below the cervix. This should be allowed to remain until the following evening, when it should be removed by the patient and an antiseptic douche given. The patient should assume the knee-chest position at least three times a day during the time she is receiving this treatment. All forms of violent exercise should be avoided, and corsets should be abandoned. F. H. Martin (Northwestern Lancet, Aug. 1, '99).

SCARLATINA, TREATMENT OF.

In cases of scarlatina that either have a high temperature early in the disease or have severe nervous symptoms (such as restlessness, muscular twitching, convulsions, or insensibility) at or near the be-

ginning of the attack, or where both high temperature and nervous phenomena are present, the use of the bath at a temperature of 90° F. is of great value. The child should be put in a volume of water sufficient to cover the body and extremities, and should be constantly rubbed while under the water, after which it should be dried quickly and put to bed, not stopping to put on night-dress or other clothing. The bath should be repeated whenever temperature gets to or above 103° F. This treatment put into general use and systematically employed early in all cases where temperature ranges to 102 $^1/_2$° F. or above will save many lives and prevent dire complications and sequelæ. D. S. Hanson (Columbus Med. Jour., Aug. 5, '99).

SOMATOSE.

The successful results, which have been frequently reported from the employment of medicinal doses of somatose, undoubtedly depend upon stimulation of the appetite. Further, it cannot be doubted that, aside from this influence, somatose when taken up in the organism also serves to promote a tissue-increase, since it constitutes a very soluble form of albumin. It is probable, however, that the gain in flesh generally observed is to be regarded as an indirect effect of somatose due to the increased desire for food. This point is of especial consideration in the treatment of tuberculous patients. It is absolutely necessary in every form of administration of somatose to adopt a proper dosage and a suitable mixture with warm fluids. It is usually sufficient to administer 3 or 4 teaspoonfuls daily. Large doses are harmless, but it is doubtful whether they are completely absorbed. It is sufficient to add somatose to diluted, sterilized cows' milk in order to obtain an excellent nourishment for infants. For adults, especially sensitive girls and women, it is advisable to administer this preparation alternately in gruels, coffee, chocolate, or tea. Adolf Kronfeld (Mass. Med. Jour., Sept., '99).

SPINAL CORD, INJURY OF.

In regard to injury to the spinal cord, personal conclusions are as follow:—

1. Extradural hæmorrhage does not give rise to cord-lesions or symptoms, and requires no treatment. 2. Total lesions of the cord are irremediable, because the cells and fibres of the entire thickness of the cord are destroyed, are never regenerated, and are replaced by cicatricial tissue. The lesion is thus permanent and needs no treatment. 3. In hæmatomyelia the clot is absorbed; its site persists as a cavity or is filled by newly-formed tissue; Irregularities of circulation in the surrounding portions of the cord adjust themselves. There may be great amelioration of the symptoms. There is, therefore, no therapeutic indication, and no remedial treatment is possible. 4. In partial contusion of the cord the lesion results in permanent destruction of the cells and fibres; disturbances of circulation adjust themselves. Repair is accomplished by cicatricial tissue. No treatment is available. 5. In open injuries of the cord there is destruction of cells and fibres and disturbances of the circulation. In addition, infection may occur or a foreign body may be introduced and left in or lodged against the cord, and by its continued presence produce great disturbance of the circulation and consequent extensive degeneration and necrosis of cells and fibres. Repair occurs by cicatricial tissue as before. But here active operative interference is indicated to remove foreign bodies, to facilitate disinfection, to prevent more extensive necrosis, and to facilitate drain-

age. P. R. Bolton (Annals of Surgery, Aug., '99).

TRAUMATIC SHOCK.

Patients are personally prepared for grave operations by administering 2 ounces of whisky by the stomach or per rectum an hour before the time set for the operation and by injecting $^1/_{30}$ grain of strychnine hypodermically a few minutes before anæsthetizing the patient. These prophylactic measures have been of great value in minimizing the danger from anæsthetics and the shock incident to the operation. It is likewise important to prevent a loss of heat, and to favor peripheral circulation by enveloping the body and limbs during the operation. Treatment of shock is purely symptomatic. Rest in the recumbent position, the external application of dry heat to the body and extremities, the inhalation of nitrite of amyl, the administration of stimulants—such as alcohol, camphor, coffee, and tea—constitute the usual routine of treatment for shock. The danger of causing burns must not be lost sight of in applying heat. Hot bottles and bricks, employed for this purpose, must be wrapped in flannel to guard against such undesirable complications. Alcoholic stimulants, hot red wine, rum, whisky, and brandy-punch deserve the preference. If spirits are used, an ounce should be given every fifteen to thirty minutes until reaction is established. In the gravest cases the remedy that will act most promptly is nitrite of amyl by inhalation. Copious rectal enemata of hot normal salt solution are always valuable, and are never to be neglected in the treatment of pronounced shock. Subcutaneous or intravenous infusion of the same solution may also be used with the most encouraging results. Opium is contra-indicated in the treatment of uncomplicated shock. If the patient cannot swallow, or if nausea and vomiting interfere with the administration of stimulants, resort to subcutaneous injections becomes a necessity. Subcutaneous injections of sterilized camphorated oil can be relied upon as a valuable cardiac stimulant. Three or four hypodermic syringefuls administered every fifteen minutes until reaction sets in is the rule to be followed in the use of this drug. Electrical stimulation of the phrenic nerves and artificial respiration are indicated in shock. In shock the absorption of all drugs, administered by the stomach or rectum or even injected into the tissues, is always slow; hence care is necessary to guard against an accumulative action during the recovery of the patient. Therapeutic value of strychnine in the treatment of shock is doubtful. N. Senn (St. Louis Courier of Med., July, '99).

TUBERCULOUS ADENITIS.

As regards prevention of tuberculous adenitis in children, all milk should be boiled and the child's environment should be watched with the greatest care. The child should not be allowed to visit tuberculous houses or rooms where phthisis has been treated, especially if the room is undergoing repairs, or if the walls are being stripped. Loose teeth, carious teeth, and stumps should be removed; cavities should be thoroughly disinfected and filled. Adenoids, if sufficiently pronounced to cause symptoms, should be promptly removed, likewise enlarged tonsils, especially if liable to repeated attacks of catarrh or if they have an irregular surface. If tuberculous glands appear, and they are discovered in an early stage, a great deal can be done for their cure without operative interference. Before commencing codliver-oil, which in the majority of cases does so

much good, it is often well to give a little gray powder and alkaline mixture before meals, for a few days, and then, whatever suits the child best, should be the tonic selected. For the majority, iodide of iron with malt is good. Of far greater importance than any drug is abundance of fresh air and sunlight,—if possible at the sea-side. Tepid sea-bathing, followed by friction, is good; in a word, all means that tend to improve the child's general health and raise his tone should be adopted. Teeth, tonsils, and naso-pharynx should be attended to. Stomatitis and small ulcers of the lips and gums should be properly treated.

In treating the glands themselves one should always think of the part of skin or mucous membrane the diseased gland represents, and then apply the remedy to that spot. For instance, the gland at the angle of the jaw and the upper deep cervical drain the tonsil; therefore the remedy should be applied to the tonsil. This plan was first tried accidentally. A young lady of 20 was suffering from chronic pharyngitis and an application of iodine and iodide of potassium in glycerin was prescribed to be painted on the tonsils and pharynx each night. She returned in six weeks with her throat trouble much better, and delighted at the disappearance of an enlarged gland at the angle of the jaw which had been in evidence for over two years. The application has been used in personal hospital and private practice, and, in the majority of cases, with the greatest benefit. The application is composed of iodine, 12 grains; potassium iodide, 15 grains; ol. menth. pip., 2 minims; glycerin, 1 ounce. For the superficial glands draining the skin, iodide-of-potassium ointment well rubbed into the skin representing the surface of absorption is used. If after a fair trial of constitutional and local treatment the glands still increase in size or show signs of softening, the sooner they are removed, the better. For those which are completely broken down it is better to incise the capsule at once, and scrape it out with a sharp spoon, then dress the inside of the capsule with pure carbolic acid; afterward, if the capsule can be teased out, so much the better. In excising glands no pressure should be made on the gland, either by the fingers or by pressure-forceps of the various special types. If several in a group are affected, the lower one should be taken first, working up in the opposite direction to the lymph-current. The danger of pressure is that some of the tuberculous material may be pressed from the medulla of the gland into the efferent vessels, the valves of the lymph-vessels allowing the current to pass by way of the efferent vessels, and preventing its passage into the efferent vessels. G. Morgan (Brit. Med. Jour., Aug. 19, '99).

TUBERCULOUS PERITONITIS.

During the first few days of an acute attack of tuberculous peritonitis the usual treatment for acute peritonitis is indicated. After the first few days no opium, but the continuation of hot fomentations, if necessary, for pain and discomfort. Enough calomel may be administered to turn the stools to a dark green. As soon as the stomach will tolerate them, salines are to be given in divided doses, to produce two or three soft or liquid stools daily. The diet must be fluid and in regulated quantities, so as to produce no intestinal gases, until the subacute symptoms have passed, and then only such solid may be allowed as will neither leave a solid residuum nor produce gas either in the stomach or bowels. It is the want of strict and intelligent attention to what is taken as

nourishment that leads to intestinal pain, distension, nausea, increase of the peritonitis and effusion, and the necessity for an opiate.

Salol, guaiacol, or creasote are indicated both for their antiseptic action and for a possible effect upon Koch's bacillus. The patients must be kept quietly in bed until all abdominal tenderness is gone, and the afternoon temperature is almost normal, and they must be careful to be more quiet whenever there is any rise in temperature or indications of abdominal tenderness or pain. Tonics, stimulants, and general remedies that may be found curative of tuberculous infection are not to be neglected. The patient must be kept under systematic treatment for several months, and should be cautioned to restrict her diet to food that will be easily digested and non-irritating to the bowels. H. T. Byford (Annals of Surg., Sept.,'99).

UTERINE CANCER.

Among the earlier symptoms of uterine cancer, one of the most frequent and constant is hæmorrhagic uterine discharge unconnected with other recognizable causes. This, more especially when occurring after the climacteric period, should arouse suspicion of its probable source in malignant disease, and always demands that careful local investigation by which its origin may be traced.

Another generally early and characteristic symptom of malignant disease of the uterus, and particularly of its medullary forms, is a thin albuminoid exudation from the vagina, occasionally blood-stained, but more commonly of a light-green color, and offensive in smell from the first. This, as the malady progresses, gradually becomes more excessive in quantity as well as more ichorous, blood-stained, or muco-purulent, and, above all, assumes a special and almost pathognomonic fœtor, distinct from the fœtidity frequently present in other gynæcological cases where local cleanliness is neglected. By this irritant exudation the external parts in cases of advanced cancer are liable to become excoriated, and the most intense pruritus is occasioned.

The extent and character of the pain complained of in cases of uterine cancer is chiefly dependent on the locality as well as the special form of the disease in each instance, being most intense where the fundus or body are complicated, and least experienced where the disease is in the vaginal portion of the cervix, more especially in the more common epitheliomatous and medullary growths. In such cases the cervix may occasionally be destroyed by the former, or the vagina filled by the latter, without the occurrence of any very acute suffering. In a few of the instances of uterine cancer, personally noted, pain was one of the earlier of the symptoms by which the patient's attention was called to her disease. But generally, as the disease progresses and more especially in its scirrhous form, the so-called pathognomonic color gradually manifests itself, and by the increasing or lancinating pain, chiefly referred to the sacral region, and always exacerbated at night, the patient is at length driven to seek relief. Even at an early stage of the disease, as pointed out by Montgomery, on careful examination the margin of the os uteri is found hard and often fissured. In the situation of the muciparous glands there are felt several small and distinctly defined projections, almost like grains of shot or gravel, under the mucous membrane. Pressure on these with the point of the finger gives rise to pain or nausea. The circumference of the os uteri feels indurated or turgid, and is of a deep-crimson color, or, if eroded, presents some slightly

projecting points, which bleed readily on touch. These nodules when excised will be found under microscopical examination to afford all the characteristics of malignancy, and hence the cautious employment of the curette so as to bring away a sufficient amount of the abnormal tissue for microscopical examination should be resorted to in every case of suspected or possible adenomatous or cancerous degenerations. Thomas M. Madden (Indian Med. Rec., Aug. 2, '99).

Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following monographs:—

Treatment of Gonorrhœal Urethritis. By Victor F. Mueller, M.D., Ch.D., Milwaukee, '99.——A Case of Lepra, Trophic Type. By Otto Lerch, A.M., M.D., Ph.D., New Orleans, '99.——Contribution from the Laboratory of General Chemistry, University of Michigan. Saw Palmetto. By P. L. Sherman and C. H. Briggs.——A Case of Leukemia of the Splenic Myelogenous Variety. By Otto Lerch, A.M., M.D., Ph.D., New Orleans, La., '99.——Thoracic Resection for Tumors Growing from the Bony Wall of the Chest. By F. W. Parham, M.D., New Orleans, La., '99.——Nosophen as a Substitute for Iodoform. By D. A. K. Steele, M.D., Chicago, '99.——The Case of Mrs. Maybrick. By Clark Bell, '99.——Millets. By Thomas A. Williams. U. S. Department of Agriculture, Washington, D. C., '99.——Tubercular Cervical Lymph-nodes. A Study Based on Thirty-six Cases Submitted to Operation. By C. N. Dowd, M.D., New York, '99.——Annual Report of the Supervising Surgeon-General of the Marine-hospital Service of the United States for the Fiscal Year 1898.——The Treatment of Pertussis. By W. H. Donaldson, M.D., Fairfield, Conn., '99.——Yesterday and To-day. By F. J. Shepherd, M.D., Montreal, '99.——The Surgical Treatment of Typhoid Fever. By G. E. Armstrong, M.D., Montreal, '99.——Removal by Abdominal Incision of the Remains of an Extra-uterine Fœtation of Fourteen Years' Duration. A. F. Currier, M.D., New York, '98.——The Method of Choice for the Removal of Hair-pins from the Bladder of Women. By A. F. Currier, M.D., New York, '98.——Clinical Data Relating to Cancer of the Uterus. By A. F. Currier, M.D., New York, '99.——Œdema and Elephantiasis of the External Genitalia, Following Removal of the Inguinal Glands. By C. A. Hamann, M.D., Cleveland, '99.——A Note on the Significance of the Small Volume of the Nerve-cell Bodies in the Cerebral Cortex in Man. By Henry H. Donaldson, '99.——The Total Number of Functional Cells in the Cerebral Cortex of Man, and the Percentage of the Total Volume of the Cortex Composed of Nerve-cell Bodies, Calculated from Karl Hammarberg's Data; together with a Comparison of the Number of Giant Cell with the Number of Pyramidal Fibers. By Helen Bradford Thompson, '99.——The Number and Arrangement of the Fibres Forming the Spinal Nerves of the Frog (*Rana Virescens*). With Eight Plates. By Irving Hardesty, '99.——A Contribution to the Study of Bright's Disease with Special Reference to the Etiological Relationship of the Bacillus Coli. By Albert G. Nicholls, M.A., M.D., Montreal, '99.

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Cyclopædia of the Year's Literature.

APPENDICITIS.

Diagnosis.—In 228 consecutive cases of appendicitis in which operative procedures were resorted to, Robert T. Morris[1] noted 7 errors in diagnosis. These included 1 each of old typhoid-fever complications, peritoneal tuberculosis, cancer of appendix, congestion of appendix, hysteria, pneumonia, and sequelæ of measles. As the number of errors is small compared with the total number of cases, he concludes that ap-

[1] N. Y. Med. Jour., Apr. 8, '99.

pendicitis is one of the most readily diagnosed of all diseases. In 4 of the cases in which an incorrect diagnosis was made the operation was of benefit to the patient.

In the diagnosis of appendicitis J. Garland Sherrill[2] finds a number of conditions which may at times so resemble this disease that it is frequently difficult to accurately determine which of the contions is present. Fæcal distension of the cæcum sometimes causes irritation of the mucous membrane and presents symptoms similar to those of appendicitis. This condition may be excluded by the fact that the tumor is preceded by the pain, by the absence of vomiting and rigidity of the abdominal wall, and by the small amount of pain and tenderness. Typhoid fever is to be excluded by gradual rise and higher temperature-range, by the absence of tumor and rigidity of the muscles in the right iliac region, and by the nervous phenomena and spots. In typhoid fever the characteristic stools will probably be found, and in appendicitis constipation; if diarrhœa, this is not, however, characteristic. Intestinal obstruction presents the symptoms of shock from the first if it is acute and if there is no elevation of temperature. The constipation is more marked than in inflammation of the appendix, save in those cases in which paresis of the intestine is present. Vomiting is a characteristic symptom of intestinal obstruction. In renal calculus the pain radiates from the right lumbar region to the hypogastrium and is very severe, but disappears after the lapse of some hours as quickly as it came. The testicle is retracted and the patient is without fever. The absence of fever by no means excludes appendicitis, however. Gall-stones may be simulated by an abnormally-located appendix which is inflamed. In the female, inflammation of the Fallopian tube and extra-uterine pregnancy can usually be excluded by a bimanual examination in connection with the clinical history of these conditions.

In appendicitis during pregnancy Gerster[3] considers that diagnosis is more difficult than in the non-pregnant. However, bimanual examination will usually locate the inflammation out of the pelvis, and the site of the pain is high. In both early and late stages of pregnancy the appendix should be removed as soon as the symptoms are progressive.

H. Stuart MacLean,[4] as a result of clinical experience, has been in favor of operating in every case of appendicitis. Recent advances in hæmatology, together with a number of cases examined personally, has given a method of differential diagnosis more accurate than the ordinary clinical methods available, viz.: examination of the blood. In appendicitis with pus-formation there exists a typical abscess, and in abscess-formation there is an increase in the number of leucocytes, the increase being proportionate to the amount of pus-formation. If there is no leucocytosis, the case is either not one of appendicitis or one of the catarrhal form, and extremely mild, or very severe and gangrenous, the patient being in a moribund condition. This means of diagnosis and prognosis should be given a trial.

Etiology.—Seymour Taylor[5] is convinced that the majority of instances of inflammation about the appendix are dependent upon an infection of the tissues of that organ by bacteria, and that for-

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[2] Louisville Jour. of Surg. and Med., Apr., '99.

[3] Phila. Med. Jour., Mar., '99.

[4] Virginia Med. Semimonthly, Sept. 22, '99.

[5] West London Med. Jour., Apr., '99.

eign bodies proper play only a very secondary part in the production of the disease. Catarrh of the mucous membrane of the viscus may pave the way for the more severe bacterial inflammation.

Of 1400 cases of appendicitis collected by J. F. Mitchell[6] only 7 per cent. were associated with a true foreign body. These included shot, pins, worms, gallstones, a tooth, a piece of bone, a grape-pip, etc. Pointed bodies seem to have a very decided proclivity to descend into the appendix, and conspicuous among these are pins.

Pathology and Treatment.—In regard to appendicular inflammation as a cause of inflammatory disease of the right ovary and tube, A. J. Ochsner[7] has reached the following conclusions: 1. Appendicitis frequently causes inflammatory diseases of the right ovary and tube, and occasionally the left side is also involved. 2. This condition is especially likely to give rise to chronic invalidism, because of the periodical exacerbation resulting from the congestion due to menstruation. 3. In operating for the relief of pyosalpinx the condition of the appendix should always be determined. 4. In operating for chronic or recurrent appendicitis in patients suffering also from dysmenorrhœa, the right ovary and tube should be examined. 5. If the pain is limited to the right side in severe dysmenorrhœa, the appendix is frequently primarily involved. 6. In catarrhal appendicitis in which there is a fæcal concretion in the appendix, or in appendicitis obliterans, the pain is frequently most severe during menstruation. 7. In patients who have recovered from gangrenous appendicitis there is frequently no further disturbance from the condition of the appendix, except the digestive disturbance due to adhesions, while the secondary disturbance in the ovary and Fallopian tube may continue to be very great. 8. In young girls suffering from dysmenorrhœa the history should be followed very carefully, in order to determine the presence of a previous attack of appendicitis. 9. The fact that many of these cases are mistaken for salpingitis accounts for the theory that appendicitis is more common in men than in women.

George Worlsey[8] concludes that in operations for appendicitis when pus is present, the first consideration is the life of the patient, the second the avoidance of disagreeable sequelæ, of which ventral hernia is the most common and hence the most serious.

Post-operative ventral hernia may be largely avoided in spite of the necessary use of drainage: (1) by the use of the McBurney muscle-splitting incision; (2) by suturing most of the wound, and [*a*] the use of provisional or secondary sutures in the part left open for drainage, or [*b*] the early removal of the gauze drain, facilitated by the use of a rubber-tissue collar where it passes through the wound, allowing the walls of the cavity and sinus to become approximated, thus avoiding the necessity of filling up by granulations. By the latter method complete and firm wound union has been obtained in 15 $^1/_2$ days on the average, and in all ordinary cases inside of 3 weeks. To this end the appendix should be removed if possible. The relative frequency of hernia following pus-cases with drainage is another argument for early operation in appendicitis. It is also an answer to the charge that surgeons are too eager to operate for appendicitis, not infrequently expressed by physicians

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[6] Johns Hopkins Hosp. Bull., Jan.-March, '99.

[7] Jour. Amer. Med. Assoc., July 22, '99.

[8] Med. Rec., Apr. 1, '99.

who would defer operation until the chance of success is diminished and the danger of post-operative hernia is increased.

F. B. Harrington[9] has studied 236 cases of appendicitis operated on in the Massachusetts General Hospital and examined some time after operation. Many of the cases which reported themselves as perfectly well had marked general bulging of the abdominal wall on the side operated upon. Some had protrusions of the wound, and some had hernias of which they were not aware. Intermuscular spaces could be detected in 28 per cent. of those with tightly closed wounds. These were present in 83 per cent. of those cases with wounds tightly closed and 87 per cent. of those which were left open. These intermuscular spaces result from separation of the muscles which were not brought into apposition by sutures. Drainage by gauze or by other means favors this condition, as do also transverse incisions of the muscles. The muscular and tendinous fibres should not be cut in any appendix operations if it can be avoided. When drainage is necessary, as much of the wound should be closed as possible with sutures, and the drainage removed at the earliest moment consistent with safety. Stout belts and trusses are of little value in the after-treatment of these cases, and may even do harm. The abdominal muscles, from the earliest possible period after the operation, should be developed with proper exercises. If hernia or marked bulging occurs, an operation for radical cure is safe and satisfactory.

Virginius Harrison[10] advises operation as soon as the diagnosis is complete, in all mild cases, when there are no complications of great moment. In the fulminating variety all are agreed as to the advantage to be gained by the early operation. In those cases seen late, and in which suppurative peritonitis is present, without collapse, the patient is entitled to the very small chance given by the operation, after he has been fully advised as to the gravity of the situation.

DIABETES MELLITUS.

Pathology and Treatment.—According to Piéry,[11] in diabetes, with the condition of bronzed skin described by Hanot, in 1882, there are distinct diseased conditions in the liver. It is hypertrophied and has the appearance of old leather. The cells are more or less atrophied and infiltrated with a brownish-black pigment. In pancreatic diabetes there are also hypertrophy and sclerosis in the liver. In nervous diabetes the liver is almost always hypertrophied. In arthritic or constitutional diabetes the liver has been found either hypertrophied, atrophied, or in a state of fatty degeneration, thus showing that the liver plays an important part in diabetes.

Robin[12] indorses the recommendation of Lépine that the following intravenous injection should be used in cases of diabetic coma:—

℞ Chloride of sodium, 1 drachm.
Bicarbonate of sodium, 2 ½ drachms.
Distilled water, 1 quart.

In addition, in place of the antidiabetic diet, a strict milk diet should be instituted at once, and the elimination of poisons should be assisted by administration of saline purgatives, of which probably sulphate of sodium is most efficacious. Should the heart be feeble or irregular,

[9] Boston Med. and Surg. Jour., Aug. 3, '99.
[10] Virginia Med. Semimonthly, Sept. 22, '99.
[11] Gaz. des Hôp., Feb. 4, '99.
[12] Bull. Gén. de Thér., Sept. 15, '98.

full doses of digitalis and ergotine are to be given.

In uncomplicated cases of diabetes mellitus Robert C. Kenner[13] finds no remedies better than arsenic and opium. Arsenic given in the form of a solution of the chloride is excellent. It should be taken two weeks and left off two weeks. Besides giving the arsenic in this manner, opium given in the form of codeine, in doses of from $^1/_2$ to 4 grains, is a great aid. This may be given in one dose at bed-time, but when results are not encouraging it is to be given at intervals of every four hours.

The author contends that the physician can do much to overcome the rigor of the dietary in diabetes by giving as large and varied a number of articles as can be permitted. The following is a general outline of foods allowed in diabetes: meats of all kinds excepting liver, poultry, game, fish, eggs, cheese, butter and cream in moderation, lettuce, celery, cucumbers, water-cresses, chicory, dandelion, young onions, cabbage, cauliflower, spinach, string-beans, beet-tops, radishes, mushrooms, truffles, asparagus, oyster-plant, artichokes, tomatoes, filberts, pecans, almonds, butternuts, walnuts, and cocoa-nuts. Glycerin and saccharin may be substituted for sugar in tea and coffee, when that is indispensable with the patient. He recommends a flour prepared by Farwell and Rhines, of Watertown, N. Y., called "special diabetic food." This satisfies the patient's appetite for bread and not only satisfies the desire, but contains food-qualities which answer all the demands of the system which are supplied by bread. He has noted a gradual disappearance of the sugar in the urine, and a steady increase in the patient's strength. Biscuits, gems, griddle-cakes, etc., may be made from this preparation. The foods to be avoided are sugar and sirups of every variety, wheat- and rye- flower, Indian-corn meal, arrowroot, sago, tapioca, oatmeal, barley, potatoes, beets, parsnips, carrots, rhubarb, pease, beans, chestnuts, sweet fruits of any kind, chocolate, cider, malt liquors, champagne, and other sparkling wines.

Graham Brown[14] looks upon it as a matter of considerable importance that a man suffering from this disease should lead, as far as may be, an easy life free from worries. The skin functions should be excited either by means of tepid baths or, if the diabetic condition is not a severe one, by mild Turkish baths. He should wear flannel or silk next the skin, and he should take as much exercise in the open air as he can stand without undue fatigue. In regard to diet, of solids, the patient may take meat of any kind—fresh, salted, or even smoked—except liver; fish of all kinds, including shellfish; poultry, game, rabbits, eggs, butter, cheese, lettuce, tomatoes, asparagus, water-cress, celery, cucumber, mushrooms, and the various kinds of diabetic bread, provided these are reasonably free from starch. In small quantities the patient may take lemons, oranges (if not sweet), currants, and cranberries. Most farinaceous preparations should be forbidden, also bread, rice, tapioca, semolina, arrowroot, and the like. Peaches, turnips, asparagus, vegetable marrow, beat-root, green pease, cauliflower, all sweet fruits, and sugar in any form are likewise inadmissible. Of liquids the patient may take water, aërated water, coffee, soups which have not been thickened with farinaceous material, and, if one gives a stimulant, a little light claret or a very little whisky may be allowed.

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[13] Charlotte Med. Jour., July, '99.

[14] Scottish Med. Jour., Mar., '99.

Milk may be also taken, but only in comparatively small quantity. The consumption of sweet wines and liquors, of cocoa and chocolates, and of beers and ales should be forbidden. Diabetic bread is not very pleasant as an article of food, and sometimes a little ordinary bread must be allowed. It is best taken as thin toast, rather overtoasted. In diabetic cookery, saccharin may take the place of sugar. Levulose may very properly be made use of in diabetic diet, care being taken to ascertain that the amount of sugar in the urine is not thereby increased. It becomes the physician's duty to discover—in case of any individual patient—how much, if any, starch can be consumed without increase of sugar in the urine. He should be put at first on a very strict diet, and after a week or so, when the quantity of sugar present in the urine has become stationary, he should be allowed to take a certain small quantity of starchy food. If no increase of the sugar results, a little more may be given, and in this way one learns what quantity of starch it is safe to give. Patients who can afford to visit Vichy or Carlsbad may be sent to one or other of these places, provided the disease is not too far advanced.

F. Frederick Crouse, Jr.,[15] has found that nearly all cases of diabetes show fluctuations in the twenty-four hours. Generally diabetics cannot assimilate the carbohydrates which are taken for breakfast on an empty stomach, but they may assimilate these substances if taken for luncheon or dinner. There is prognostic value in the fluctuations which occur in the elimination of sugar; if these are regular, they indicate a mild case; if they are not marked and are irregular, the case is relatively severe.

According to an editorial,[16] the later treatment of diabetes does not aim to cure the affection by eliminating starches and sugars from the diet. The main thing to be avoided is excessive consumption of food, by which the organs of digestion are overtaxed and their function disturbed. The diet should be a mixed one in which the carbohydrates are considerably reduced, but in which they are not altogether eliminated. The quantity of food taken should be just sufficient to meet the needs of the patient; it should be apportioned carefully for each meal, and under no circumstances should the patient be allowed to overindulge. Careful attention should be directed to the alimentary tract, and fermentation or the results of constipation should be carefully eliminated. In all severe cases, in which there is alimentary disturbance, lavage of both stomach and bowels should be employed. Medicinally, antipyrine combined with bicarbonate of sodium favorably influences the general condition of the patient. Iron and arsenic are useful as tonics, and liberal quantities of water should be allowed.

Leon L. Solomon[17] regards it as important that the diabetic should be kept warm. He should wear flannel in winter and silk undergarments in summer. Warm baths should be taken twice or thrice weekly, and an occasional Turkish or Russian bath is of service. Spending the winters South and the summers at the sea-shore does much good. Sea-air and sea-bathing are always followed by pleasing results. Massage and exercise seem to act by improving the circulation. They not only equalize the blood-supply and thus avoid the dilatation of arterioles, but the chief good of exercise re-

[15] Albany Med. Annals, Aug., '99.

[16] Medicine, Oct., '99.

[17] Merck's Archives; Treatment, July 13, '99.

sults from the exposure of the blood to the ferments in the muscles where the sugars are changed and made harmless.

He states that whatever preparation of opium is used, it is necessary to exhibit it in gradually-increasing dosage. Its effect is to allay thirst, control pain and distress, afford sleep, and reduce the quantity of urine voided and the percentage of contained sugar. When the latter is accomplished, appetite improves and flesh and strength are gained. Codeine produces all the good effect of opium, with none of the bad. Codeine phosphate is, by reason of its solubility, admirably adapted for hypodermic medication, which is not infrequently superior to the administration of the same remedy by the mouth. The good resulting from arsenic depends on its ability to modify the glycogenic function. The action of jambul (jambal, jambol) in diabetes is often remarkable, in that it permits one to give starchy food to such as can without its influence not tolerate starches. A solid extract (powdered) is most serviceable in doses of from 5 to 30 grains, although much larger doses are sometimes required: 1 ounce has been given in the twenty-four hours with no untoward effect. The iodides are indicated where a history of syphilis is obtainable. Tonics and tonic alteratives, including the larger group of restoratives, are indicated in all states of lowered vitality; iron, phosphorus, codliver-oil, and strychnine will often serve the best purpose when opium, jambul, and arsenic fail. Symptoms are to be met as they arise. Antipyrine relives the pains of diabetes mellitus; it also has some power over the excretion of sugar.

Noble[18] performed operations on three diabetic patients, two of whom recovered. In the first patient the breast was amputated for cancer. The axillary glands were dissected out and the axilla drained. The axilla suppurated, but the patient recovered. The second patient suffered with ventral hernia. Glycosuria was detected; the patient was put on special diet and treated to full doses of codeine and strychnine. When the excretion of sugar had greatly diminished the hernia was repaired by operation. Three years later the urine, after prolonged medication, was found quite free from sugar. The third patient had been subject to diabetes for some years. The treatment and medication were conducted as in the second case, and the sugar greatly diminished. The patient was in good general health, but had complete procidentia. A vaginal hysterectomy was performed, the stumps of the appendages being brought into the vagina. An anterior colpotomy was also performed. On the fourth day the amount of urine and percentage of sugar suddenly increased, and the patient died of diabetic coma on the sixth day.

EPILEPSY.

Treatment. — Zimmerman[19] has successfully used bromipin, which is an addition-product of sesame-oil containing 10 per cent. of bromine, in many cases of epilepsy, in doses of from 2 to 8 teaspoonfuls per day, according to the severity of the case. It possesses a great advantage over other bromine preparations in that no symptoms of eruptions were at any time observed, and the remedy was in all cases well borne, whereas the bromides caused unpleasant gastro-intestinal by-effects. The number and intensity of the epileptic attacks were lessened under this treatment more than when ordinary bromides were exhibited.

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[18] Amer. Jour. Obstet., Feb., '99.

[19] Neurol. Centralb., p. 524, '99.

Where patients object to the oleaginous taste, it may be given in warm milk or inclosed in soft capsules.

In epilepsy, when an aura precedes the epileptic seizure, L. L. Hand[20] thinks the best method of preventing an attack is by the inhalation of nitrite of amyl. Chloral, in doses of 10 to 15 grains, should be given by the mouth either alone or combined with the bromides. The daily life should be regulated, the patient being given moderate exercise in the open air. Tea, coffee, and stimulants should be excluded from the diet. The quantity of food taken must be moderate, and constipation should be carefully avoided. Acetanilid, alone or preferably combined with bromides, is useful. The use of antipyrine at night, in doses of 5 grains, is highly recommended. When bromides are administered a saline cathartic should be given every few days. Proper employment, together with skilled medicinal treatment, will probably give the best results. The epileptic colony seems to be the ideal method of treatment.

In epilepsy Lloyd Andriezen[21] finds the addition of compound sirup of the hypophosphites to the bromide of sodium and ammonium of distinct value in averting or diminishing dullness, muscular depression, and feebleness of circulation.

Fletcher Beach[22] specially advocates the use of the bromides of ammonium and strontium in the treatment of epileptics, as these drugs are less depressing than the bromide of potassium. When large doses are given, strychnine should be coupled with the bromides to counteract the depressing effects of the latter. He favors a diet from which meat and eggs are excluded for a time.

In epilepsy Antony Roche[23] recognizes an important advantage that the strontium salt has over the potassium, viz.: the strontium salt does not produce that marked depression which the potassium does so frequently when taken for some time. In a medicine that has to be taken for years this is a most important point.

In epilepsy Roche[24] has found that restricting the amount of animal food has a beneficial effect. The patient should live in the open air, avoid the overstrain of modern life, but interest his mind to a healthy extent. The first consideration in prescribing strontium bromide is to find the dose which will control the attacks, to increase the dose until that effect is produced, and then to continue it steadily for a long period. If the fits are more frequent at any time of the day, the larger dose should be given half an hour previously, the smaller dose being taken twelve hours afterward. One may begin with 1 drachm daily in an infusion of quassia: 40 grains at the most threatened period, and 20 grains twelve hours later. If the fits recur, 1 $^1/_2$ drachms are given, and so on until no recurrence results. To prevent the bromide rash Fowler's solution is useful. Besides the bottle containing the regular doses, another one should be prescribed, called the "intermediate," which contains 20 grains to each $^1/_2$ ounce, and should the patient have aura, he is to take $^1/_2$ ounce every half-hour until the sensation passes off. When the attacks are due to syphilis a combination of strontium iodide and strontium bromide should be given.

Alexander Haig,[25] in speaking of the relation of diet to epilepsy, points out that the uric acid increases blood-press-

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[20] Med. Rec., July 29, '99.
[21] Lancet, Aug. 26, '99.
[22] *Ibid.*
[23] *Ibid.*, Aug. 19, '99.
[24] Indian Med. Rec., Apr. 12, '99.
[25] Lancet, Aug. 26, '99.

ure, causes headache, and increases the liability to epileptic fits. He recommends a scale of diet—rice, vegetables, milk and cheese, macaroni and other farinaceous preparations, and in special cases "protene" and "gluten"—that is calculated to subserve all the needs of food and digestion, but is quite free from uric acid, and has been found to give results and to avert the disagreeable and dangerous symptoms above alluded to.

Telford Smith[26] considers that persons who are subjects of mild epilepsy and whose intellect is normal should attend ordinary schools, while persons suffering from epilepsy with idiocy and imbecility should be placed in custodial institutions (asylums). Patients the subjects of epileptic insanity in the restricted sense can find suitable care and treatment in ordinary asylums. There will still remain cases of epilepsy with feeble-mindedness, and these patients require special schools. Finally, for severe cases of epilepsy, not insane or imbecile, experience is strongly in favor of the industrial colony system, located in the open country, conducted on methods now well known, manual training and farming being the chief things taught, so that the patients are able to lead useful and relatively self-supporting lives.

GALL-STONES.

Treatment.—According to W. H. Washburn,[27] the fact must not be forgotten, in the selection of any medicinal agent for the treatment of cholelithiasis, that the treatment is to be prolonged, and therefore something must be administered that will not produce any ulterior effects. From this point of view the phosphate of sodium and the beef-gall are least objectionable, the amount of water to be consumed being increased coincidently. There is good evidence that the administration of beef-gall for long periods of time increases the solubility of cholesterin, and this tends to prevent the formation of gall-stones. The author quotes L. Gautier, of Geneva, who reported satisfactory results from the use of this substance in doses of $1\,^1/_2$ grains with the two principal meals of the day. Sodium phosphate is personally made the basis of continued treatment, the drug being given in one daily dose of 1 teaspoonful and continued for weeks, months, or years, as the case may seem to require.

The case is noted of an old gentleman who had suffered from attacks of gall-stone colic, from ten to twenty times a year, for twelve years, and who during the next four years of treatment with phosphate of sodium did not have a single attack. In individual cases sodium phosphate, sodium salicylate, salol, and beef-gall can be alternated, each one being given for a time and then substituted by another.

Physical exercise plays an important part in the treatment. Horseback-riding is regarded as a good form of exercise and bicycle-riding is also to be recommended in this connection. Exercise of whatever sort must stop short of fatigue. The best diet in biliary lithiasis will be a mixed one, in which meats and fats enter somewhat largely, and in which there is no excess of sugars and starches.

Charles McBurney[28] states that the chronic form of bile-stone usually comes under the surgeon's care after the symptoms have existed for a long time; there is clearly a chronic obstruction of the duct, and the symptoms indicate that there is no particular change going on

[26] Lancet, Aug. 26, '99.
[27] Texas Courier-Record of Med., Apr., '99.
[28] Med. Rec., Sept. 2, '99.

excepting such as is disadvantageous to the patient. Those cases should be operated on as soon as that conclusion has been reached. The acute cases, in which the obstruction has come on recently, deserve much consideration. In such a case there is always doubt whether the condition is the beginning of a chronic obstruction or whether the stone is making its way downward and will finally escape. Perhaps the best and safest guide in these cases is the condition of the patient. Frequent attacks of pain indicate efforts on the part of the duct to push the stone along, and, if the patient is not really made ill by them, it may be well to wait. If, on the other hand, there is fever, with increasing tenderness, and the patient is really ill, an operation is advisable. The best way to avoid the difficult gall-stone operation is to operate on those patients who have gall-stones in the gall-bladder, with attacks of colic from which they usually recover without operation. It is much better to get rid of the stones which are in the bladder and which furnish the material for these difficult obstructions later on. An operation for the removal of gall-stones from the bladder is simple, and patients usually stand it very well.

Clinton Cushing[29] thinks that if the gall-bladder is so seriously diseased as to warrant a surgical operation for its relief, it is better practice to remove it *in toto* than to leave it as a place for further accumulation of gall-stones, or as a point for the setting up of new inflammations.

W. L. Carr[30] regards the predisposition to gout and rheumatic disorders as largely concerned in the production of gall-stones. If the bacterium coli commune is a cause, it is on account of its producing a catarrhal condition of the intestinal tract. He relieves the pain of biliary colic by morphine and atropine, to which large draughts of water may be added. For the diet, in preventive treatment, foods slow of digestion and those which are especially rich in fats and sugars are to be strictly forbidden. Chloroform, ether, and turpentine have really little action in dissolving the stones. Sweet oil is a valuable adjunct. Salicylate of sodium, chlorate of sodium, succinate of sodium, and the succinate of iron are useful in stimulating the flow of bile. Massage of the abdomen, with gentle manipulation of the region of the gall-bladder, is recommended. Surgical means alone, however, will afford relief in impaction.

In the treatment of gall-stones, during the paroxysms of colic, J. W. Irwin[31] says the best way to relieve the acute pain is to use morphine and atropine hypodermically, and to put the patient in a warm bath. Between the attacks of biliary colic, a drachm of ether to an ounce of whisky, given four times a day, is excellent. The mineral waters of Carlsbad are useful, but equally as effective are the waters of Saratoga Springs. Vichy and geyser water are especially useful. When the foregoing methods fail, the surgeon's knife carefully used will effect permanent results. Cholecystotomy appears to have been the least dangerous to life of all abdominal operations, and it is the best for the removal of gall-stones. Death rarely follows operation.

W. F. Boggess[32] does not believe that every case of biliary colic means gall-stones. It is often due to an inspissated condition of the bile; there are often catarrhal conditions of the gall-ducts in which inspissation of the bile takes place, and which phosphate of soda will relieve.

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[29] Jour. Amer. Med. Assoc., July 29, '99.
[30] N. Y. Med. Jour., Apr. 22, '99.
[31] Med. Council, Apr., '99.
[32] Med. Council, Apr., '99.

The majority of cases that get well under so-called medical treatment are simply cases of this character. He does not believe it is possible to dissolve gall-stones by any form of medication by the mouth, and the only hope of permanent relief is by surgical operation when the stones do not work off through the natural channels.

In the treatment of cholelithiasis F. C. Ferguson[33] regards mere palliative remedies, whether they be medical or surgical, as pernicious,—mere makeshifts,—often leading to a fatal issue. However, in first attacks of hepatic colic tentative treatment is allowable. The attack may pass away in a few days and the patient apparently recover. But he should be warned that sooner or later the attack will, in all probability, recur, and a surgical operation may be necessary to save his life. But in acute attacks attended with jaundice and lasting longer than from ten days to two weeks, and in which there are no signs of improvement, operation is indicated. In all acute cases, unattended with jaundice, lasting for a week or more without improvement, operation is unmistakably indicated. In all chronic cases—namely, cases in which there has been a recurrence from time to time of hepatic colic, whether there is or is not a coincident jaundice—operation is indicated. Then there is another class of cases, chronic in nature, that drag their slow length along for months, sometimes for years, in which the distinctive symptoms of gall-stones have been merged into constipation, chronic indigestion, anæmia, soreness, and sometimes excessive tenderness in the epigastric region. Jaundice, if present at all, is very slight. The gall-bladder in such cases is liable to undergo cancerous degeneration, and should be operated upon without delay.

In operation for gall-stones the vertical incision at the outer border of the rectus is preferred by C. A. Hamann.[34] If the gall-bladder is distended with fluid one must aspirate. Should pus be present, it will be best to suture the gall-bladder, unopened, to the abdominal wall, and, after a couple of days, open it and remove the stones. If pus is not present, it is best to open the gall-bladder at once—the surrounding parts being well protected with gauze—and remove the stones. After this the ducts should be explored by one or two fingers in the foramen of Winslow and the thumb in front. A stone in the cystic duct may be forced upward, or it may be crushed with the fingers or with padded forceps. A large stone in the common duct may be cut down upon, or the duodenum may be opened and the stone gotten at from below. If the duct is opened sutures are then to be inserted. In this procedure Halsted's aluminum hammer inserted into the opening will aid materially in the manipulations.

After the stones have been removed from the gall-bladder, and while the deeper parts are being explored, the cavity should be partly filled with sterile gauze to prevent bile from escaping into the peritoneal cavity. Finally, in the majority of cases the gall-bladder should be stitched to the abdominal wall.

If a stone, for some reason, cannot be removed from the common duct, and must be left, it is proper to do a cholecystenterostomy, using the Murphy button to attach the gall-bladder to the small intestine.

MENOPAUSE.

Treatment.—Glass[35] reported a suc-

[33] Med. Rec., Oct. 7, '99.
[34] Penna. Med. Jour., Apr., '99.
[35] Med. News, Apr. 29, '99.

cessful case of transplantation of the human ovary for relief of premature menopause. Six days after transplantation the patient experienced a condition of sexual erethism continuing for several days. From this time she has continued to have a positive sexual impulse, and sixteen days after the transplantation menstruation occurred, lasting two full days, and she has menstruated irregularly since. At the present time, eight months after the operation, the patient has apparently regained her mental and nutritive equilibrium and says she is well.

W. A. Newman Dorland[36] concludes that: 1. The ovaries, in common with other glandular organs in the body, exert an occult, but very positive, influence upon the general organism. 2. When this influence is removed, either by the natural atrophy of the glands at the climacteric, by destruction of the ovarian stroma from pathological processes, or by extirpation of the organs, there results a series of distressing phenomena, including hot and cold spells, nervous and mental manifestations, and neuralgic attacks. 3. The administration of ovarian substance or of the extract of ovarian tissue is promptly and very generally followed by a marked amelioration of these symptoms. 4. The average dose required varies from 2 to 5 grains of the extract administered thrice daily. 5. Excessive doses of the remedy will be followed by cardiac and nervous manifestations, necessitating a diminution in the dose administered or a complete, though temporary, change of treatment. 6. In some cases there appears to be developed a tolerance to the remedy whereby its effects are diminished in intensity. For this reason it is better to begin with small doses and gradually increase the amount as may be indicated in the given case.

A. H. P. Leuf[37] states that, if medicines must be used for the disturbances occurring at the time of the menopause, there is nothing better than the bromide of potassium in sufficient amount to be effective. Ten grains every two or three hours may be given at first, to be continued, after it is effective, as occasion demands. The usual hygienic and dietetic precautions should not be omitted. Frequent bathing in water of agreeable temperature is relaxing or soothing to the nervous tension. The advantages of suitable games, especially out-of-doors, must not be overlooked, such as croquet in the open air and cards within-doors. If these women can be kept busy at congenial work or pastime they are more benefited than they generally can be by medication. If headaches at this time are associated with gastric or other extrapelvic visceral disturbances, they should be rectified. Many of these cases yield to aconitine or even to the tincture of aconite, the latter being given in 1-drop doses at hourly or half-hourly intervals until effective. If elimination is deficient, 5-drop doses of the wine of colchicum often gives surprising relief. As a mere analgesic with rapid action, the best remedies come from the coal-tar group, and acetanilid, 5 grains in tablet form, combined with a single grain of bicarbonate of sodium, is personally favored. If a heart-tonic be needed at the same time, caffeine may be added, or a suitable dose of wine or whisky may be used instead.

Severe throbbing headaches are often quickly relieved by veratrum viride, of which 5 or 10 drops of the fluid extract may be given at once and repeated at hourly intervals till effective. If the pain

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[36] Ther. Gaz., Apr. 15, '99.

[37] Med. Council, Apr., '99.

is due to excitement, there is nothing better than potassium bromide, of which half a drachm may be given in a glass of water. Excessive sleepiness is probably caused by an autointoxication, and it may be frequently relieved by inducing normal renal or enteric elimination, which it is much better to have too free at this period of life than even a little sluggish.

In insomnia, crocheting, knitting, or needle-work and embroidery are serviceable in a proportion of cases. In others, suitable reading—that is, of a quiet, monotonous kind—has the desired effect. Mathematical work, such as adding up figures or calling out or copying numbers, is useful. Many are relieved by a warm bath, rather prolonged. In others general massage is the best remedy, or this may be followed by a cold or tepid sponge-bath and subsequent friction with a coarse towel.

OVARIAN NEW GROWTHS.

Diagnosis.—P. F. Mundé[38] asserts that two conditions are essential to the production of a torsion of the pedicle of an ovarian tumor: a long, slender pedicle, and a small tumor, not larger than a fist or, at most, a cocoa-nut. The size of the tumor when removed does not indicate its size when torsion occurred; for it grows with each twist. The torsion may be either gradual or sudden, either partial or total. The pedicle may be twisted once on itself or many times, until it has become so thin as to appear on the point of breaking. Salient features in diagnosis of a twisted ovarian pedicle are: Moderate distension of the umbilical region, with greater prominence either in median line or on either side; rapid formation of swelling, which perhaps was merely noticed before; more or less tenderness on pressure; tense, but distinct, fluctuation, with single or interrupted wave, accordingly as cyst is single or multilocular; outline of swelling generally distinct, but sometimes diffuse; dullness on percussion over area of swelling; tumor touchable through anterior vaginal vault, and continuous with suprapubic swelling; uterus generally posterior to vaginal swelling; fluctuation-wave in vagina continuous with abdominal wave; temperature somewhat elevated, perhaps to 102°; pulse rapid and small; general depression; anxious countenance. Attack has usually come on suddenly, and may have been preceded at an interval of several weeks or months by a similar less-marked seizure attended by severe pain.

Pathology.—Kroemer[39] believes that dermoid and teratoid tumors of the ovary are ovulogenous, since they always present evidences of the three embryonic layers. It may be assumed that their manner of development is not one of pathogenesis, since the latter is a physiological process. The cleavage of the ovum from which a dermoid develops is pathological. Only the earliest portions of the embryo develop; hence the prominence of the ectoderm and cephalic end, while the remaining portions either do not develop at all or are deformed. The differentiation is one-sided, and is sometimes confined to a single organ, such as a breast. In connection with this subject the question of the differentiation of sex in the ovum presents a suggestive field for future study, though the expectation of affecting the result, as claimed by Schenck, may be dismissed in vain.

Treatment. — C. Greene Cumston[40] states that when diagnosis of a dermoid cyst has been made, removal of the

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[38] N. Y. Med. Jour., Feb. 25, '99.
[39] Archiv f. Gynäk., B. 57, H. 2, '99.
[40] Phila. Med. Jour., Jan. 14, '99.

growth by celiotomy is indicated, because its presence is always a danger to the patient, not only from the possibility of malignant transformation, but also from that of septic infection or rupture of the cyst: two important complications that may occur at any time.

According to Theilhaber,[41] in ovariotomy if the opposite ovary contains only a few retention-cysts it may be left after puncturing or resecting the cysts. If the cyst is of the true papillomatous variety the other ovary should always be removed, even if it appears to be perfectly healthy, since experience has shown that it often undergoes papillomatous degeneration afterward. This does not refer to cases in which small excrescences are found in the inner walls of retention or parovarian cysts. Commencing adenomatous degeneration of the opposite ovary may be suspected if the albuginea is much thickened and the organ is almost entirely transformed into large cysts with thick walls. In the case of young women a suspicious ovary may be split open, its interior examined, and, if healthy, may be sutured with catgut. If one ovary is affected with carcinoma, sarcoma, or endothelioma, the opposite one should always be extirpated.

PARTURITION.

Treatment. — Vaginal Atresia.— Two cases of labor complicated by atresia of the vagina are reported by Eberlin.[42] In neither of these cases had there been any disorder of menstruation, and neither was aware of the condition which existed. On examination the vagina was found in each case closed by a resisting membrane sufficiently firm to impede the fœtal head. These patients were treated by dissecting out the membrane with scissors and closing the wound-surface by stitches. There was considerable hæmorrhage, but the stitches promptly controlled it. In both instances the child was born without assistance, and the mother made a complete recovery. No evidence of cicatrical contraction found subsequently in these cases. Cases of atresia of the vagina should be dealt with before labor. Otherwise hæmorrhage with possible infection may occur.

Hæmorrhage.— Bastian[43] believes that in treatment of post-partum hæmorrhage the following method of plugging the vagina is effective in all cases: A Cusco bivalve speculum is introduced into the vagina, and the blades, which should be about 5 1/2 inches long, are opened as widely as possible. The cervix is then plainly seen. Sterilized or iodoform gauze is then introduced, great care being taken to press it firmly against the cervix and the *cul-de-sacs*. In this way the uterus is raised into the abdominal cavity a considerable distance. The plugging is continued methodically until the vulva is reached. The speculum is left in for twelve, and the whole plug for twenty-four, hours. If the hæmorrhage is vaginal, one of the valves of the speculum will compress the bleeding-point directly, and the stretching of the vaginal wall is an indirect aid; if cervical, the hæmorrhage is arrested directly by pressure of the plug on the torn flaps and on the trunk of the uterine artery in the base of the broad ligaments, and indirectly by the stretching of the last named by the elevation of the uterus; if from inertia, the last-named mechanism is equally effective, and the dense plug closes the external os just as well as pressure-forceps. An intra-uterine clot

[41] Brit. Med. Jour., Jan. 28, '99.
[42] Zeit. f. Geburt. u. Gynäk., B. 60, H. 1, '99.
[43] Rev. Méd. de la Suisse Rom., Jan. 20, '99.

then forms and excites the uterus to contraction.

For the arrest of post-partum hæmorrhage, the greatest confidence is placed in gauze-packing of the uterus and vagina by de Lee.[44]

Hysterectomy is advocated by Lawson Tait[45] in cases of unavoidable hæmorrhage due to placenta prævia. The dangers to the patients and to the child are so great that in a personal case the operation was performed because it had many arguments in its favor. It would save the child; it would probably save the mother; it would relieve her of the perpetual misery and risk in which she had been living for years.

Contracted Pelvis.—From a critical review of the first thousand patients delivered in the obstetrical department of the Johns Hopkins Hospital G. W. Dobbin[46] concludes that: 1. In a hundred and thirty-one cases of contracted pelves there was necessity for operative delivery forty-six times, or 35.11 per cent. 2. The pelves most frequently requiring operation are the rachitic and irregular forms. The generally-contracted pelvis, though very common in the negro race, is comparatively rarely sufficiently deformed to seriously obstruct labor. 3. Pelves in which the contraction is very marked are the easiest for treatment, as in both cases the indications are definite, and should give the operator little trouble in deciding upon the treatment to be pursued. 4. On the other hand, the pelves possessing a medium degree of contraction are the most perplexing, and call for the exercise of the greater skill and judgment. When proper appliances are at hand, such cases are best treated by tentative application of forceps, and, this failing, immediate Cæsarean section. 5. In general, forceps give a lower fœtal mortality than version, but version done as a primary operation on a movable head in a slightly-contracted pelvis is a safer operation for the child than a difficult, high-forceps operation. 6. Except in very exceptional cases, symphysiotomy is not to be compared with Cæsarean section, for the former operation, besides causing greater injury to the mother, is always an uncertain procedure. 7. Operations on contracted pelves are rarely uncomplicated. Among the commonest accidents may be mentioned premature rupture of the membranes and prolapse of the umbilical cord. 8. The only rational and scientific method of obtaining "corrected-morbidity" statistics is by the bacteriological examination of the uterine lochia, for only in this way can we say definitely which infections are the result of operation.

According to Pinzani,[47] the greatest enlargement in the true conjugate is obtained when the patient is first placed upon the back and then in Walcher's position. In contracted pelves as much as two millimetres is gained in this way. The increase differs considerably in different cases, varying from 9 to 7 millimetres upon the living patient. This posture will give the best results in cases where the contraction is at the entrance to the pelvis, as in flat and generally-contracted pelves. Forceps and version are very frequently indicated with the gain in pelvic room given by this position, and many difficult labors are made less severe by its employment. At the moment there is, in these cases, also, less danger of serious injury to the pelvic floor and posterior wall of the vagina.

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[44] Jour. Amer. Med. Assoc., Apr. 15, '99.

[45] Med. Rec., Mar. 4, '99.

[46] Obstetrics, Aug., '99.

[47] Ital. Obstet. and Gynæc. Soc.; Amer. Jour. Med. Sci., May, '99.

Stahl[48] declares that in the delivery of the after-coming head when gross disproportions exist between the head and the pelvis, the advantages lie with the perforation and extraction of the advancing head rather than with the perforation and extraction of the after-coming head, and the following conditions will obtain, no matter how skillful the obstetrician: 1. The cephalic parts in the after-coming head are more difficult of access. 2. The avenue of approach, because of its embarrassment, is more awkward for operation than when clear of obstacles like the neck and trunk. 3. Assistance required is greater and more complicated. 4. The length of time of operation is longer. 5. The evacuation and breaking down of the brain is accomplished with less facility. 6. Extraction of the after-coming head manually or with instruments requires greater and more delicate efforts. 7. The dangers from slipping of instruments, ruptures, lacerations, and pressure inflammations are greater. 8. With the after-coming head choice of vantage puncture is limited; the head cannot be turned or adapted as emergency or advantage may suggest; in the advancing head, and more especially when decapitated, the head can be turned, without difficulty or danger, into any form of presentation desired, so that any point, as a fontanelle or suture, may be chosen for attack. 9. The extraction of the after-coming head presents more difficulties for the general practitioner, as well as for the specialist, than does the extraction of the advancing head. 10. As Winternitz declared, decapitation, turning, excerebration, and extraction require, comparatively speaking, little time.

Puerperal Sepsis.—Crédé's silver ointment has been found valuable in puerperal sepsis by Jones.[49] The preparation of silver which is employed is not a salt of silver, but is soluble, uncombined metallic silver made into an ointment 15-per-cent. strong. Three grammes of the ointment contain about four and one-half grains of pure silver. This ointment has been used once in twenty-four to thirty-six hours in acute, and in chronic cases twice daily. It is rubbed into the body at some distance from the point of infection, and should be thoroughly carried into the skin and subjacent tissues. Results of the treatment are immediate improvement in the symptoms, beginning within from three to ten hours.

Conclusions of the committee of the American Gynæcological Society[50] in regard to value of antistreptococcic serum in puerperal sepsis were as follow: 1. A study of the literature shows 354 cases of puerperal infection, with a mortality of 20.0 per cent. When the streptococci were positively demonstrated the mortality was 33 per cent. 2. Marmorek's claim that his antistreptococcic serum will cure puerperal infection is not thus far sustained. 3. Experimental work has cast grave doubts upon the efficiency of the work demonstrating that a serum which is obtained from a given streptococcus may protect that animal from that organism, but is absolutely inefficient against another streptococcus. The number of serums that may be prepared is only limited by the number of varieties of the streptococcus that may exist. 4. Thus far, the only definite result of Marmorek's work is the development of a method by which the virulence of streptococci may be increased to an almost inconceivable extent. 5. Personal experi-

[48] Amer. Jour. of Obstet., Apr., '99.
[49] Obstetrics, No. 2, '99.
[50] Phila. Med. Jour., June 3, '99.

ence of the committee has shown that the mortality of streptococcic endometritis if not interfered with is something less than 5 per cent., and that such cases tend to recover if Nature's work is not undone by too energetic interference locally. 6. We unhesitatingly condemn curettement and total hysterectomy in streptococcic infection after full term, and attribute a part of the excessive mortality in the literature to the former operation. 7. In puerperal infections a portion of the uterine lochia should be removed by Doerderlein's tube for bacteriological examination, and an intrauterine douche of from 4 to 5 litres of sterile salt solution given just afterward. If the infection be due to streptococci the uterus should not be touched again, and the patient be given large doses of alcohol and strychnine if necessary. If the infection be due to other organisms, repeated douchings and even curettement may be necessary. 8. If the infection extends toward the peritoneal cavity, and in cases gravely septicæmic, Pryor's method of isolating the uterus by packing the pelvis with iodoform gauze may be of service. 9. The experience of one of the members of the committee seems to show that it has no deleterious effect upon the patient, and therefore it may be tried if desired. The report adds that the committee finds nothing in the literature, clinical or experimental, or in their own experience to indicate that its employment may markedly improve the general results in the treatment of the condition.

Cæsarean Section. — Bar[51] believes that Cæsarean section is not difficult to one who has had some experience in laparotomy. It is, however, dangerous, if the least detail of antisepsis is omitted, and should never be done in women who have become septic. It is also dangerous through the possibility of atonic hæmorrhage, which may require ablation of the uterus. Analysis of 170 operations gives a maternal mortality of 6.41 per cent., and a fœtal mortality of 5.57 per cent.

According to Sippel,[52] in Cæsarean section silk sutures act as drainage-tubes by capillary attraction, and a silk suture passed through the wall of the womb into the uterine cavity may furnish a means of communication between the interior of the uterus and the peritoneal cavity. Catgut is better because of its freedom from capillarity. The placental site in the uterus is not tissue favorable for suture, and good union is difficult to obtain. Therefore, if possible, the situation of the placenta should be located before opening the uterus. The transverse incision of Fritsch is not favored, but the longitudinal incision is adhered to.

The method of Fritsch is a valuable modification of the ordinary method for certain cases; but the classical operation is preferred by Cryzewicz,[53] unless there is some distinct indication for the use of the transverse.

PLAGUE.

Prophylaxis.—A. M. Cothoru and C. J. R. Milne[54] state that the fact that animals such as monkeys and squirrels are also susceptible to natural plague infection, in addition to rats, cannot be overestimated, especially in their relation to the carrying of infection from one district-village to another in India.

Leumann[55] notes that in Hubli, India, from May 11th to August 23d, 33,880 persons were inoculated (24,138 twice;

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[51] L'Obstétrique, May 15, '99.

[52] Archiv f. Gynäk., B. 56, H. 3, '99.

[53] Centralb. f. Gynäk., Mar. 25, '99.

[54] Jour. of Tropical Med.; Boston Med. and Surg. Jour., Aug. 10, '99.

[55] Lancet, 10, '99.

9742 once). In all, 58,018 inoculations were performed in fifteen weeks. Actual plague deaths have averaged 85 per cent. in favor of the inoculated. Haffkine's inoculation method and sanitation and hygiene should be utilized together. The general health of the inoculated persons seems to be improved, as shown by the lower death-rate from "other causes."

Treatment.—Clemow[56] says that Yersin's serum is prepared by inoculating a horse with sterilized cultures and testing upon mice. When it is effective in protecting the latter against a fatal dose of the plague-virus, it is considered ready for use upon human beings. Fifty cases were treated with, and 50 control cases without, the serum. The mortality in each group was 40. The early injection of the serum appeared to have no effect, for 6 cases inoculated on first day resulted in death. The dose was gradually increased until as much as 60 cubic centimetres were injected daily without affecting the mortality. Thirty cases were treated with Lustig's serum. Of these, 10 resulted fatally, giving a mortality of 67 per cent. Some of the cases showed a fall of temperature after the injection, but otherwise no beneficial results were observed.

According to Charles A. Gordon,[57] Mr. J. V. Ramasamy, Naidu, of Madras, treated plague by neem- and olive- oils. The "Baroda plague pills," largely believed in by the natives, consist of quinine, 2 grains; camphor, $^1/_4$ grain; ipecacuanha, $^1/_4$ grain; and carbolic acid, $^1/_4$ minim. They were used by thousands as a preventive; from the date of their being so the disease began to decline and speedily disappeared. Dr. Seymour used the following prescription, which had effected 75 per cent. of recoveries against 21 where the patients were not so treated: Acid. carbolic. liquid., 3 minims; quin. sulph., 5 grains; acid. sulph. dil., 10 minims; glycerin, q. s.; aqua, q. s. ad 1 ounce, every four hours. Inoculation was in certain instances supplemented by the administration of stimulants.

W. J. Simpson[58] considers the treatment of plague as symptomatic. The cases should be immediately isolated; the sputum, urine, and excreta should be received in vessels containing mercuric chloride of the strength of 1 part in 500, while a solution of half this strength should be used for soaking soiled clothes, disinfecting cups, spoons, etc., and washing the physicians' and attendants' hands. No infected matter should be thrown into the drains, on account of the likelihood of infecting rats in the sewers. If patients die, they should be wrapped in sheets soaked in strong bichloride solution, and the body be surrounded in the coffin by carbolized sawdust.

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[56] Lancet, May 6, '99.
[57] Indian Lancet, June 16, '99.
[58] Brit. Med. Jour., Sept. 16, '99.

Cyclopædia of Current Literature.

ACOIN.

The following conclusions are drawn regarding acoin:—

1. Acoin in solutions of 1-100 to 1-200 produces satisfactory anæsthesia in an unirritated eye in about the same length of time as cocaine.

2. In more than one case where the eye was congested repeated instillations of acoin were inadequate to produce satisfactory anæsthesia.

3. Inspection of the cornea with a high-power lens failed to show any defects in the epithelium after its use.

4. Acoin has no effect upon accommodation.

5. It has no effect upon the size of the pupil.

6. It does not increase intra-ocular tension.

7. Several experiments showed that the staphylococcus pyogenes albus did not grow in agar which contained acoin in the proportion used in the clinic, and furthermore that exposure of this organism to the action of acoin for twenty-four hours was followed by the death of the organism. This would look as though acoin were not only an inhibitor of the growth of the staphylococcus albus, but that it also killed this organism after a certain length of time. R. L. Randolph (Ther. Monats., Jan., '99).

ALOPECIA.

In alopecia one of the following formulæ, after the suggestion made by Richema and M. Stoganovitch, has been found useful:—

1. ℞ Lactic acid, 4 fluidrachms.
   Distilled water, 1 fluidounce.

2. ℞ Lactic acid, 2 1/2 fluidrachms.
   Alcohol (60 per cent.), 1 fluidounce.

The application is made with absorbent cotton, by friction, until considerable redness is caused. After successive applications, if crusts form, borated vaselin is applied until normal condition is obtained, and then the lactic acid is resumed. This treatment should be continued until the desired growth of hair is obtained. Balzer (La Sem. Méd., No. 18, '99).

ALOPECIA AREATA.

Treatment.—Trikresol is a very efficient remedy for alopecia areata. In nine cases an average cure was obtained in two and a half months. The area should be thoroughly cleansed with benzin, and then trikresol applied pure to the scalp. It is well rubbed into the denuded patches and into the roots of hairs one-half inch beyond each patch, by the friction of a small swab of cotton tightly wrapped on a wooden toothpick. The burning and pain soon pass away. These applications are made according to the local effect produced, but on the average every five to seven days till desired result be obtained. Granville MacGowan (Pacific Med. Jour., Aug., '99).

Alopecia areata treated with the arc-light. The bald spots and their shaved borders were subjected to daily treatment of an hour and a quarter's duration. The number of sittings varied in accordance with the size and number of the spots. The results were good, the hair beginning to grow in a short time. In one case two or three bald spots were treated with the light; these became completely covered with hair, while the untreated spots remained hairless until treated later in the same manner. Jersild (Deut. med. Zeit., No. 37).

CARBONIC-ACID GAS IN HEART DISEASE.

Mitral stenosis and pain are greatly relieved by the inhalation of carbonic-acid gas for thirty seconds, the patient's bowels to be kept very free and the use of cardiac tonics to be restricted; there is not only a relief of pain, but greater freedom of respiration, with an improved state of the pulse and the appearance generally. Carbonic-acid gas acts as an anæsthetic, and also as a stimulus

to the muscles of respiration, and a continued use of the inhalations has the effect of gradually moving the dilatation. By the ordinary treatment it is difficult to influence mitral stenosis, but carbonic-acid gas has always improved and often restored the patient to a condition of comfort. W. Ewart (Med. Rec., Sept. 9, '99).

CARDIAC ASTHENIA OF PNEUMONIA.

Treatment.—Physicians have all seen cases of pneumonia with paresis of the capillaries in which nitroglycerin has been of the greatest benefit. It depends on the way in which it is used. As pointed out by H. C. Wood about a year ago, nitroglycerin, in doses of $^1/_{100}$ grain, placed on the tongue, is a very valuable heart-stimulant, whereas larger doses will do harm. In larger doses it is a cardiac paralyzant, while in small doses it indirectly stimulates the heart's action. In these cases of capillary paresis we have all seen the benefit of digitalis, strychnine, and nitroglycerin, but not until the latter has been added. Babcock (Boston Med. and Surg. Jour., Sept. 7, '99).

In cardiac asthenia of pneumonia too much attention has been directed to the heart alone, disregarding entirely the condition of the peripheral vessels, particularly the arteries. The indiscriminate use of nitroglycerin is a growing evil with the profession in this country, especially as applied in cases of pneumonia. One should not use veratrum viride, but strychnine and digitalis. Personal method consists in administering every fifteen minutes 15 drops each of the compound spirit of ammonia, the compound spirit of lavender, and the tincture of valerian. This is kept up day and night until the pulse shows improved tone and the heart-action is decidedly better. Valerian may be omitted if not retained, and whisky or brandy substituted. Sparteine sulphate in $^1/_4$-grain doses with 4 to 6 grains of caffeine are given every two, three, or four hours. Tokay wine is recommended. H. L. Elsner (Boston Med. and Surg. Jour., Sept. 7, '99).

CHOREA.

Etiology.—The most reasonable idea concerning the causation of chorea is that it is due to a toxin's circulating in the blood; but at present there is not sufficient evidence to warrant a conclusion that it is of bacterial origin. Campbell Thomson (Lancet, Aug. 12, '99).

Treatment.—Satisfactory results from antipyrine in chorea given according to the method of Dr. J. T. Eskridge. The drug is given in increasing doses, beginning with 1 grain for each year of the child's age, and increasing 1 grain each day. In the mildest cases the child is allowed to sit up a part of a day, and the antipyrine is only given in the evening; but in severe cases absolute rest in bed is necessary, the dose of antipyrine being given three times a day. The drug is stopped as soon as the choreic movements cease or greatly diminish. Fowler's solution and iron are given until two or three weeks after the cure appears to be complete. In giving such doses of antipyrine (20 grains three times a day to a child of 8 years old) the child must be kept in bed and carefully watched; should there be heart disease or any fever, it is not given. Rapid cures were obtained in nineteen cases so treated S. D. Hopkins (Phila. Med. Jour., Aug. 19, '99).

COCAINE AND EUCAINE, RELATIVE TOXICITY OF.

Personal experiments regarding the toxicity of cocaine and eucaine lead to the following conclusions:—

1. The action of cocaine is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar.

2. The action of eucaine is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and, so far as personal experiments have gone, in different individuals also, are the same.

3. The first action of cocaine on the heart is that of a depressant, and on respiration it is that of a mild stimulant, the after-effects being, on the heart, that of a decided stimulant, and on the respiration that of a decided depressant.

4. The first action of eucaine on both the heart and respiration is that of a stimulant, the after-effects being that of a decided depressant.

5. Cocaine causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases.

6. Eucaine causes death in animals by paralyzing the muscles of the heart and the respiratory apparatus, these organs ceasing to operate simultaneously.

7. Eucaine in toxic doses nearly always causes nausea, and occasionally vomiting.

8. Cocaine is much less nauseating and scarcely ever causes vomiting.

9. Eucaine is decidedly a diuretic, causing renal discharge in a majority of instances in which a toxic dose is used.

10. Cocaine is not a diuretic to any appreciable extent, renal discharge having occurred in only one instance in connection with all experiments.

11. The pupils in nearly all cases of cocaine poisoning do not respond to light and are more or less bulging from their sockets.

12. The pupils in most cases of eucaine poisoning do respond feebly to light, and rarely ever bulge from their sockets.

13. The action of toxic doses of eucaine is more like that of a paralyzing, tetanoiding, convulsion-producing agent, than it is like an anæsthetizing one, the plantar and cremasteric reflexes nearly always responding.

14. Toxic doses of cocaine cause general anæsthesia in connection with other symptoms in the majority of cases.

15. True tetanus, of all striped muscles of the limbs, and Cheyne-Stokes's respiration nearly always occur with the use of cocaine, but seldom does either occur when eucaine is used.

16. Cocaine is at least three times more toxic than beta-eucaine, and alpha-eucaine is as toxic as cocaine.

17. Boiling does not destroy the efficacy of cocaine, but it does modify it, and boiling in no degree lessens the efficacy of eucaine. A. H. Peck (Jour. Amer. Med. Assoc., Sept. 9, '99).

CONSTIPATION.

Treatment.—In the treatment of habitual constipation the good derived from cascara sagrada will depend upon the mode of administration; when given as a cathartic and only when necessary to unload the bowel, one fails to accomplish the desired end; but when given in small doses for its tonic effect upon the lower bowel, a much better result may be expected. As the bile is always found efficient in constipation, it becomes necessary to combine some chola-

gogue with the cascara: a preparation of corrosive sublimate, cascara sagrada, and strychnine is of value as given in the following formula:—

℞ Hyd. chl. corros., 1 1/2 grains.
Strychninæ sulph., 1 grain.
Aqua dest., 1 ounce.
Fl. ext. cascara sag., 4 ounces.
Glycerinæ, q. s. ad 8 ounces.

M. Sig.: One teaspoonful, more or less, two or three times per day, to maintain one action from the bowels each day; an initial purge should be given. The patient should be instructed to find the minimum amount necessary to produce one healthy stool each day and then continue this for some time. A certain time in each day must be selected for the evacuation of the bowels. R. C. Fisher (Texas Med. News, Aug., '99).

CONVULSIVE TIC.

The first indication for treatment in convulsive tic comprises the patient's removal to surroundings which will supply quiet, good hygiene, and discipline administered in kindness. It is as well to enlist voluntary effort to inhibit movements. The patient's interest in this respect may sometimes better be engaged by a system of rewards. As regards the alimentary tract, it is well to begin with small doses of calomel, perhaps combined with ipecac, the same to be followed up, after free catharsis has been established, by saline in just sufficient doses to keep the bowels open and the appetite active. If, owing to forced feeding or other cause, the bowels become sluggish, the sequence is to be repeated.

The presence of the uric-acid diathesis should be combated by reduction in the allowance of meats, especially salt meats, and of other nitrogenous substances and of the carbohydrates. Vegetables, particularly such as are rich in alkaline salts, and also acid fruits, are permissible. In all cases, individual idiosyncrasies should be noted and the character of the diet arranged in accordance therewith. As regards internal medication, arsenic holds first place as to frequency of administration. One will be compelled to give bromides at times, but their constant use cannot be recommended. Warm baths and galvanic electricity may be administered for their quieting effect. The skin should be kept active by means of the former; cold sponges may be given where well borne. Some plan of forced nutrition based upon the Weir-Mitchell treatment is always indicated. Success in affecting an increase in body-weight will be accompanied by a cessation of the inanition-twitchings previously mentioned. Bernard Oettinger (Amer. Jour. Med. Sci., Sept., '99).

CROUP.

Treatment.—The administration of an emetic, one which acts quickly, affords a safe and satisfactory means of overcoming the paroxysms of croup. Terpeth mineral, alum and honey, ipecacuanha and other emetics are all valuable. The giving of the patient a warm bath is a means of overcoming the paroxysms and is of great value. In order to prevent a recurrence of these attacks, if the patients are poorly nourished they must have codliver-oil and even the hypophosphites. The balsam of copaiba, given in doses of 1 to 3 drops in an emulsion, sweetened and flavored, four times daily to a child 5 years of age, is of value. This remedy should be continued as long as there is any evidence of bronchitis present. Conjoined with this remedy, a vapocresolene-lamp should burn in the

bed-room of the patient every night. This vapor is antiseptic and exerts a curative action on the inflamed tubes, and is an essential part of the treatment. The clothing of these patients should be warm, and the chest and neck must be thoroughly protected. The children's feet must be adequately protected; not only during the day must this be looked after, but, if there is no fire kept in the bed-room, then the feet must be covered at night. This can be done by pinning the bedclothes, by keeping stockings on through the night, or by using long night-gowns which are heavy enough to protect the feet, and are so long that they cannot be kicked off. M. P. Creel (Med. Times, Oct., '99).

DERMATITIS VENENATA.

The remedy for rhus poisoning upon which most reliance is personally placed is sodium hyposulphite, employed in the strength of $^1/_2$ ounce to 2 ounces dissolved in a pint of water, according to the age and susceptibility of the patient and severity of the disease. With this solution the affected part is mopped freely and frequently, or, better still, wrapped up in a cloth or bandage saturated with the fluid, which is renewed as soon as the dressing has become dry. Other solutions which are beneficially employed are of borax and sodium bicarbonate, diluted tincture of witch-hazel, or the distilled water of witch-hazel, lead-water and laudanum, black wash, and grindelia robusta. The last-named agent is generally reliable and is applied in a strength of a drachm or more of the fluid extract to an ounce of water. E. S. Gans (Medical Bulletin, Aug., '99).

DIPHTHERITIC CONJUNCTIVITIS.

Diagnosis.—In making a positive diagnosis of diphtheritic conjunctivitis, the microscope does not aid very much. The xerosis bacillus gives exactly the same reaction to the stain that the Klebs-Loeffler bacillus does; it looks the same under the microscope, and without clinical symptoms is of no significance whatever. The one fact which settles the diagnosis is the inoculation of rabbits or guinea-pigs, because there is no reaction to the xerosis bacillus and there is to the diphtheria bacillus. Pinckard (Ophthalmic Rec., Aug., '99).

EPITHELIOMA OF THE TONGUE.

Diagnosis.—A beginning epithelioma of the tongue is so similar to a cracked tongue caused by a localized glossitis that one is often at a loss to make an immediate positive diagnosis. After using an antiseptic application for awhile (such as boric acid in glycerin) the diagnosis is soon cleared up. Samuel F. Brothers (Phila. Med. Jour., Oct. 7, '99).

EUDOXIN.

Eudoxin, the bismuth salt of nosophen, has proved an excellent drug in the treatment of all forms of infantile diarrhœa. Profuse diarrhœa in a girl, aged 13, was arrested in twenty-four hours by giving this drug, in doses of 5 grains every three hours. On reaching the acid stomach, the bismuth contained in eudoxin becomes separated from it, and stable bismuth compounds are formed by the gastric juice, which exert a favorable action on diseased conditions of the stomach. The nosophen contained in eudoxin passes unaltered through the stomach, but during absorption in the alkaline intestine it is changed into its sodium salt,—namely, antinosin,—this being held in solution and acting as a disinfectant on the bacilli and their toxins found in the intestinal tract. In two cases of typhoid fever the stools

were soon rendered aseptic. G. M. Blech (Med. Mirror, Aug., '99).

EXOPHTHALMIC GOITRE.

The sulphate of quinine personally administered with remarkable results, arising from its influence in producing vasoconstriction of the vessels of the head and neck. Fifteen grains of it are given at night after supper, and again a quarter of an hour later. This treatment decreases the tachycardia, diminishes the exophthalmos and the size of the goitrous swelling. Paulesco (Revue de Ther. Méd.-chir., Feb. 1, '99).

The general hygienic treatment of Basedow's disease consists of rest in bed for a certain period of time, and the regulation of diet, embracing non-stimulating and easily-digestible foods; of the drugs, belladonna in large doses does the most good, by restraining the action of the heart and by decreasing (probably) the secretory activity of the gland. Ung. hydr. iod. externally tends to decrease the size of the goitre; digitalis is effective as a cardiac tonic. Phosphate of sodium has been attended with no results personally; electricity has given place to more effective means. Personally no results have been obtained from the administration of either the thymus or the thyroid extract. Operative treatment by Kocher consists in ligature of the thyroid arteries; other methods are: removal, by excision, of half or more of the gland, and exothyreopexy—the laying bare and bringing out of the gland, leaving it in this position, the usual result being thrombosis of the veins and shriveling up of the gland. The most recent operation is that by Jaboulay, which consists in the division of the cervical sympathetic. The mortality in all the operative procedures being rather high,—fully 12 per cent.,—operative interference should be resorted to only after medicinal means have been exhausted and proved futile. Frank Oliphant (Boston Med. and Surg. Jour., Jan. 12, '99).

Exophthalmic goitre should first be treated by the scientific, well-trained physician. Personal preference is given to a rest-cure and a mild hydropathic treatment. But if, after such a prolonged and careful treatment, the patient makes no progress or gets worse, becomes intractable, partial thyroidectomy should be proposed. The patient should be told the plain truth and decide herself without being pressed. If the heart is not yet overworked the outlook is better. Local anæsthesia is preferable to all other methods. Chloroform should never be used. At least one-half of the thyroid gland should be removed, and if possible more. Karl Doepfner (Memphis Lancet, Sept., '99).

FOREIGN BODIES IN THE AIR-PASSAGES, REMOVAL OF.

In removing foreign bodies from the air-passages the method introduced by Schroetter of passing a straight speculum into the trachea and bending the upper part of the body and head backward and to one side so that the speculum can be pushed downward and that its axis is a continuation of the axis of the lower part of the trachea is recommended. A. Coolidge, Jr. (N. Y. Med. Jour., Sept. 30, '99).

FRACTURES TREATED BY MASSAGE.

In Championnière's treatment of fractures without splints massage is important. In beginning massage of a fracture very little pressure must be brought to bear upon the parts, and the massage must be soft, progressive, and painless. The joint-movements are to be made in

a methodical manner. Fixation-apparatus is not wholly abandoned, as there are cases in which the tendency to displacement is so great that the temporary use of splints is necessary.

Fractures of the clavicle are treated successfully by massage. It is only where the displacement of the fragments is very great that any retentive apparatus is applied. In cases where a patient is anxious for no deformity, the seat of the fracture is laid open and the ends of the bone wired. W. S. Caldwell (Railway-surg., Sept. 5, '99).

FUNCTIONAL CARDIAC MURMURS.

Diagnosis.—Real function heart-murmurs, murmurs due to the faulty action of the valves or muscle without pathological change in the organ, are much rarer than formerly supposed. Recent studies of the myocardium show that its changes may sometimes give rise to murmurs. When the child's heart is developing the cavities enlarge, but the wall of the heart does not always grow thicker. During this period murmurs may be heard and they would appear to be due to myocardial insufficiency at certain times, constituting an organic, not functional, defect. Abraham Jacobi (Boston Med. and Surg. Jour., Sept. 7, '99).

GOUT.

Diet.—Light beers, light wines, and even dry champagne, when partaken of judiciously and in moderation, are the very opposite of injurious in gout. Disease statistics show that among the Germans who indulge habitually in small beers, as well as among the inhabitants of the Rhine and Mosel wine districts, where the average man drinks at least from one to two quarts of beer or a bottle of wine daily, gout exists at a very low ratio. Great care, must, however, be taken that only light, dry wines be used. It is through alcoholizing with alcohols of doubtful sources and greatly varying in their effect upon man that much harm results, as the process is not always performed with alcohol made from wine that is pressed from the grape. Carefully-collected statistics made in France show that consumers of spirituous liquors distilled from the grape largely escape the dire effects of hereditary influences resulting from alcoholic overindulgence, in comparison with those who use alcoholic liquors produced by distillation from pears, potatoes, or rice. P. C. Remondino (Pacific Med. Jour., Aug., '99).

Treatment. — In gout sodium salicylate fails (1) if given in conditions of general debility or (2) in sequence to colchicum. Otherwise it is extremely useful in all uric-acid conditions. Haig (Lancet, Aug. 12, '99).

The usefulness of Vichy water in gouty conditions probably depends on the sodium bicarbonate it contains. As long as one quart is taken a day a patient will remain free from migraine; but as soon as this is left off the attacks will return. W. J. Tyson (Lancet, Aug. 12, '99).

Series of experiments conducted to ascertain the effect, respectively, of sodium bicarbonate and potassium bicarbonate on the conversion of the gelatinous biurate into the crystalline form. It was found that when artificial blood-serum was charged with the gelatinous biurate the addition of the varying quantities of sodium bicarbonate accelerated the change of the gelatinous biurate into the crystalline form as regards time and quantity, and directly in proportion to the amount of sodium bicarbonate added. It was found that potassium bicarbonate had a precisely opposite effect and that it delayed and checked the con-

version of the gelatinous biurate into the crystalline form, also both as regards time and quantity and in direct ratio to the amount of potassium bicarbonate added.

The conclusions arrived at were that, the higher the alkalinity in the blood from the presence of sodium bicarbonate, the more rapid and the more complete was the conversion of the soluble gelatinous biurate into the comparatively insoluble crystalline form.

This probably explained why mineral waters rich in sodium bicarbonate were well known to accelerate an attack of gout in many gouty subjects. On the other hand, this investigation showed that the higher the alkalinity of the blood from the presence of potassium bicarbonate the more was the conversion of the gelatinous biurate into the crystalline form delayed as regards time and diminished as regards quantity. This probably explained the well-known beneficial effect of the alkaline potassium salts in the treatment of acute and subacute gout. Arthur P. Luff (Lancet, Aug. 12, '99).

GUTTA-PERCHA SHEETS FOR SPLINTS.

The use of gutta-percha sheets for splints does not seem to be sufficiently appreciated. This material can be readily cut while dry to any required shape, and by simply soaking in boiling water can be molded to any part of the body. If desired, the inner surface can be coated with a solvent so as to make it adhere to the skin, but this makes its subsequent removal difficult, besides having other objections. Samuel F. Brothers (Phila. Med. Jour., Oct. 7, '99).

HYDROCELE.

The following operation is recommended for hydroceles of moderate dimensions: After careful shaving and thorough washing and cleansing of the parts, the scrotum is made tense by being firmly grasped in one hand, and an incision is made the whole length of its long axis, the tunica is exposed, and the testicle almost entirely withdrawn from the scrotum; then, the tunica having been punctured with the knife, the puncture is enlarged with the scissors to a sufficient extent to allow of the testicles' being drawn out through the opening. This having been done, the parietal tunica is turned inside out and the opposite edges of the incision in the sac are united behind the epididymis by a single catgut suture. The cavity of the tunica thus ceases to exist, and the testicle and epididymis are covered almost completely by one continuous layer of serous membrane. The skin incision is closed with a continuous suture, and the operation completed. In very large hydroceles it is better to perform a modified excision, the anterior part of the sac being removed before everting. J. J. Pratt (Indian Med. Gaz., Aug., '98).

IMPETIGO CONTAGIOSA.

In the juvenile type of impetigo contagiosa, plenty of soap and water at frequent intervals, an application twice daily of a 5-per-cent.-boric-acid ointment, and a thorough soaking of the scalp with crude petroleum for three successive days will, within a week, destroy all active evidences of the disease. One must, however, often wait several weeks for the brilliant erythema, which underlays the crusts, to disappear. In the adult type, on the other hand, rather stronger drugs must be used and one must expect a rather longer treatment before the activity of the process is checked. A 4-per-cent. ointment of sulphur, or the application of black

wash for fifteen minutes night and morning, in conjunction with a 5-per-cent. ointment of salicylic acid and carbolized cosmolin, will usually prove sufficient to cope with the bacteriological invasion. Here, again, soap and water and clean towels, razors, combs, and brushes are indispensable if one wishes to be free for now and all time from impetigo contagiosa. Charles J. White (Boston Med. and Surg. Jour., Sept. 7, '99).

INFLAMMATIONS ABOUT THE MOUTH.

Treatment. — In treating inflammations about the mouth (1) a powerful purge, such as calomel in 10-grain doses, should be given, followed by a saline cathartic; (2) a coal-tar analgesic acting upon the skin, such as antipyrine in from 5- to 10-grain doses, or, in people of rheumatic tendencies, salol and phenacetin in 5-grain doses each, or acetanilid and salicylate of soda in similar doses. If, on account of the condition of the patient, these heart-depressing coal-tar derivatives may not be deemed advisable, Dover's powder in 5- to 10-grain doses may be substituted. This treatment is not calculated in any way to remove the cause of the malady, but rather to mitigate the pathological conditions presenting during the interval between the time of diagnosis and the completion of the surgical procedure. In inflammation, especially in the bony cavities about the mouth, such as pulpitis, this treatment will be found to be particularly valuable. The rationale of this treatment is apparent, as the lowering of the arterial tension by cathartics and diaphoretics not only prevents any further exudate and consequent pain, but also promotes absorption, while the coal-tar derivatives have specific analgesic properties. Warren B. Hill (Jour. Amer. Med. Assoc., Aug. 12, '99).

KNEE-JOINT TUBERCULOSIS.

In regard to knee-joint tuberculosis, it is difficult to lay down any positive rules for operation, but the rule that must be applied most frequently is in regard to the age of the patient. The method of procedure that should be carried out in young children—that is, whether one shall adopt radical or conservative measures—will depend upon a variety of conditions. In conservatism is personally included everything even to amputation. As a rule, erasion in children should be practiced early; removal of tubercle foci, hard and soft, will give the individual not only a good limb, but one of considerable length. In children erasion is far better than excision. With adults, excision and amputation come in most largely; excision is ordinarily preferable, but the line must be drawn between children and adults. Personal experience in injections of iodoform is that it is worse than worthless, and that it often increases suppuration. Tuberculosis can be arrested, if taken early. De Forest Willard (Jour. Amer. Med. Assoc., Aug. 12, '99).

NASAL STENOSIS DUE TO DEFLECTIVE SEPTUM.

Treatment. — Personal operation for deflections of the nasal septum consists of four steps: 1. Button-hole the septum at the point of greatest obstruction, and incise the obstructing ridges or convexities at the line of convexity. 2. Break with forceps all fibrous bands, and separate cartilage from the superior maxillary spine at floor of the nose. 3. Overlap cut edges and introduce splints. 4. Treat antiseptically for two weeks. This method restores the entire septum to its

normal position and corrects slight external deformities by breaking the superior maxillary ridge. It leaves both surfaces of the septum parallel. It is constructed on principles which make it adaptable to all forms of deformities or deflections. No perforations result, no granulation-tissue is left behind to curette away after the septum heals, and, lastly, by this method better and more uniform results have been personally obtained than by any other methods. B. Douglass (Laryngoscope, June, '99).

In the treatment of nasal stenosis due to deflective septa, with or without thickening of convex side, the following operation is one used for more than six years: After both sides of the septum have been thoroughly cocainized, an incision is made through the septum from the convex side, from behind forward, just below the horizontal angle, beginning at the bony septum and carried forward as far as the deflection extends. The cut is made from below upward and toward the opposite side, forming a bevel. If an anterior, perpedicular angle also exists, an incision from above downward, also beveled, is made, just in front of the angle, meeting the incision below, so that when the septum is brought into line the edges will slide over each other. If the angle is thickened the thickened portion is removed in the form of a wedge, by means of an incision behind and in front of it. The whole upper portion of the septum is then pushed over, with the finger, into the opposite nostril. In doing this the lower edge of the upper fragment is made to jump over the lower fragment and hook into the opposite side of the base of the septum. If the deflection extends back to the bony septum, the bone is broken up by Adams's septal forceps and molded into line. The projecting lower fragment of the septum, which represents the redundant and thickened portion, can now be removed by the saw, or if preferred can be left until after the septum has healed. For making the incisions a stout, pointed tenatome is used. If hard bone is encountered at any point the upward-cutting saw is used. The septum will retain its position without the aid of splints or plugs. As a matter of precaution, however, against violence from blowing the nose, a small pad of gauze (iodoform or nosophen) may be used in the former narrowed nostril. When the incision has been carried forward and one at right angles also made, the tip of the septum is without support while healing is taking place. In such a case, a pin, passed diagonally through the anterior fragment, from the concave side, over the perpendicular incision and then diagonally back into the septum behind is used. The pin has a ring-head, covered by a tight-fitting piece of rubber tube. In making the incisions one should endeavor to preserve the mucous membrane of the opposite side of the septum intact. A. W. Watson (Laringoscope, June, '99).

NEPHRITIS, CHRONIC INTERSTITIAL.

As regards the dietary of chronic interstitial nephritis, it is necessary to restrict the amount of lean meat consumed. The flesh of the larger animals —beef, mutton, and pork—must be taken with strict moderation or avoided; white meats—as chicken and rabbits, game and birds—are less harmful. Fish is an excellent form of food. Shell-fish of all kinds is good. Persons with Bright's disease will do well to learn to eat fat. They should use cream, eat plenty of butter on their bread, should have melted butter on their fish, and

plenty of oil in their salads. A milk diet often gives good results.

The following list may, as a rule, be used, but to be changed to suit the individual case:—

Fish: Raw oysters, raw clams, fresh fish.

Meats: Sweet-breads, mutton, bacon, chicken, salads, game. (Meats to be used sparingly.)

Breads and farinaceous articles: Stale bread, hominy, wheaten grits, rice, toasts, oatmeal, gruels.

Vegetables: Spinach, summer cabbage, turnip-tops, water-cresses, lettuce, mushrooms, celery, green vegetables generally.

Desserts: Rice- and milk- puddings; fruits which are not very acid, unless there is digestive disturbance; baked apples, prunes. All laxative fruits.

Drinks and liquors: Spring-water abundantly, hot water, milk, skimmed milk, buttermilk. R. G. Floyd (Med. Mirror, Aug., '99).

PEROXIDE IN REMOVAL OF BLOOD-STAINS FROM CLOTHING.

Hydrogen peroxide will remove blood-stains from clothing. The peroxide should be used in full strength and the application repeated until the stain is entirely obliterated. If hot water, or anything that will coagulate the albumin, has been used, peroxide will not remove the stain. The color of fabrics is not changed by the peroxide. J. T. Rugh (Phila. Med. Jour., Aug. 12, '99).

PNEUMOMASSAGE.

Conclusions regarding pneumomassage are as follow:—

Pneumomassage applied to the external auditory canal and membrana tympani, and mediately to the ossicles of hearing, in both acute and chronic catarrhal processes in the middle ear, is more efficient, less of a shock to the auditory nerve, more agreeable to the patient than inflation, and entirely free from sepsis, whereas inflation is not. Inflation of the tympana, being very rarely necessary as a means of forcing air into the middle ears, the latter being very seldom in need of it, it is fair to conclude that inflation of the tympana, as it must be applied to both ears, whether desired or not, is usually contra-indicated in aural diseases. On the other hand, as drawing the membrana tympani and malleus outward, and traction on the tensor tympani and restoration of the normal isolation of the auditory ossicles are desired, without any shock to the structures upon the inner wall of the drum-cavity, and, as this can be so safely effected by pneumatic rarefaction of the air in the auditory canal, pneumomassage is indicated for this purpose. In fact, some form of pneumomassage of the external ear has almost entirely superseded the use of all forms of inflation of the tympanum, in personal hands, during the past ten years. Charles H. Burnett (Univ. Med. Mag., Aug., '99).

PNEUMONIA, HYDRIATIC TREATMENT OF.

Owing to the susceptibility of pneumonial patients to cold, the milder hydriatic procedures, such as the cold chest-compress or the wet pack, are indicated in general. The cold chest-compress is preferable to other procedures. Its correct application requires some experience and care, therapeutic failures being usually due to faulty technique. The chest-compress is composed of three folds of linen or old muslin cut in a manner to fit the entire chest, from above the clavicles down to the umbilicus, with slits in the axillary

regions to form flaps and cover the shoulders. It is then wrung out of water, so that it does not drip, at a temperature of 60° F., snugly applied around the thorax, covered with a piece of closely-woven, thin flannel of the same shape, but at least an inch wider in all directions, and secured by safety-pins. At first the compress is changed every half-hour, then every hour or two, until the patient's temperature is below 100°, when it may be discontinued. The compress should not be covered with oiled silk, as this would convert it into a poultice and deprive it of its stimulating and gradually-cooling action. The wet pack, at a temperature of 60° to 70° F., being a somewhat more severe procedure than the chest-compress, is indicated in the graver forms of pneumonia with high temperature. In the pneumonia of children the same methods as just enumerated for adults are employed in somewhat modified form. The cold chest-compress has alone proved a reliable and adequate remedy in the vast majority of cases. For children under 3 years of age, tub-baths of 5 to 8 minutes' duration, with continuous friction, at a temperature of 95° F., gradually reduced to 85° or 80° F., according to the body-temperature, whereas in older ones preference is given to the cold compress. The copious administration of cold water at regular intervals in the pneumonia of both children and adults is also recommended. A hygienic *régime* should be strenuously adhered to. R. K. Macalester (Med. News, Sept. 9, '99).

PUERPERAL INSANITY.

Treatment.—In puerperal insanity all conditions peculiar to the puerperal period should receive such attention as is given to similar cases not mentally ill. The patient must be given food and rest. When food is persistently refused, mechanical feeding by nasal tube or stomach-tube must be resorted to and persisted in. For this purpose a good rich eggnog is perhaps the best nourishment. This can be varied by different food-preparations. The patient must be sufficiently nourished if she is to be restored to health. Should the stomach reject food, lavage may quiet the trouble, and should be made use of. If the patient is weak some good wine or brandy may be added to the food or any other form of stimulation which may be preferred. The bowels must be kept in good condition, and cathartics given when necessary. To secure rest the bath should be tried before drugs. Warm bath with cold applications to the head will often be followed by a period of quiet and sleep. When the temperature is high, a cold pack with heat applied to the feet will often secure the desired rest. Among hypnotics, sulphonal, trional, and paraldehyde are perhaps the safest. Any of them may be added to the food-mixture if the patient refuses to take medicine. As soon as the condition of the patient will permit, if the weather is favorable, she should be taken out for exercise and fresh air, and her attention diverted from her delusions by amusements and occupation. If all necessary means are available for the care of the patient she should be kept at home. Two or three competent nurses will be required for a disturbed case, and, if intensely excited, more help may be needed. And this may be necessary for several weeks. If this care cannot be given at home the patient should be removed to a hospital as soon as possible. In the milder and more depressed cases opium is used with good results. Anna Burnet (Woman's Med. Jour., Aug., '99).

PYÆMIA FOLLOWING ABORTION.

Treatment.—Very severe case of septicæmia after abortion was successfully treated by small subcutaneous injections of saline solution continued for a fortnight. Each injection consisted of 300 grammes of a 0.9-per-cent. saline solution. Ostermayer (Centralb. f. Gynäk., No. 12, '99).

REST-CURE TREATMENT, A FALLACY OF.

The following should be emphasized in regard to the rest-cure:—

1. It is positively criminal negligence to ignore eyestrain in any case requiring the rest-cure treatment.

2. It is not enough to know that the oculist has examined the eyes, especially if it has been done without a mydriatic.

3. To mydriaticize a pair of eyes for a month or two would often do more good, would certainly be more logical, would be an infinitely better means of differential diagnosis in obscure nerve trouble and functional nutritional diseases than to put the patient's body to bed for the same time. George M. Gould (Jour. Amer. Med. Assoc., Sept. 9, '99).

RETINITIS ALBUMINURICA AND SECONDARY GLAUCOMA.

The connection between retinal hæmorrhage and secondary glaucoma is recognized by all, but the connection between retinitis albuminurica and secondary glaucoma does not seem to be so clearly recognized. The connecting-link is probably more or less extensive disease of the walls of the blood-vessels, which may be regarded as a common cause of both the retinitis and the hæmorrhages. Interstitial nephritis is the variety usually accompanied by retinal hæmorrhages, and in this form of nephritis the general constitutional symptoms vary greatly in different cases. Albuminuria is occasionally absent, and when present is slight in amount and not easily detected. Two symptoms are rarely absent, however, and these are cardiac hypertrophy, with a doubling of the first sound, and certain cerebral phenomena. The most frequent head symptom is a continuous frontal or occipital headache. When these symptoms are found the urine should be subjected to frequent analysis. In looking over the literature of hæmorrhagic glaucoma, it was found that many of the published cases were marked by these symptoms. In almost all the cases of secondary glaucoma preceded or accompanied by retinal hæmorrhages and exudation, it is quite impossible to decide whether the glaucoma is really secondary to the hæmorrhages or whether the two are simply associated together. C. S. Bull (Ophthalmic Rec., Aug., '99).

RUMINATION.

The conclusions deducted in regard to rumination are as follow:—

1. Rumination is a neurosis, associated with a profound neurasthenic condition or idiocy.

2. It is not, as a rule, associated with a diverticulum or dilatation of the lower end of the œsophagus, but is primarily a stomach-neurosis.

3. It may at times be hereditary.

4. It occurs more frequently in males than in females.

5. It usually is within the control of the will.

6. The prognosis as to cure is good. L. C. Peter (Med. Mirror, Aug., '99).

SCARLET FEVER.

The following points are drawn from

a study of scarlet fever reproduced by inoculation:—

1. The mucus of the throat and mouth has been shown with absolute certainty to contain the contagium of the disease.

2. The early eruptive stage of scarlatina is exceedingly infectious, because of the presence in the discharges from the mouth and throat of the special poison of the disease.

3. The contagium of the disease being in the mouth and throat secretions, care should be taken not only to disinfect these parts as perfectly as possible, but also to keep the tongue, mouth, and lips moist constantly, if possible, in order to prevent the contagious principle's being forced into the air of the room by the exhalations of the patient.

4. Mouth- and nose- wipes should be used instead of spit-cups and costly handkerchiefs, and they should be destroyed by fire before the discharges on them dry: *i.e.*, at once. If fire be not available, disinfecting solutions should be used strong enough to render the poison inert.

5. The soiling of bedclothing and personal apparel with mouth-discharges should be prevented, if possible. In the event of such contamination they should be disinfected as soon as possible.

6. No toys or implements of any sort that cannot be boiled or subjected to the strongest germicidal solutions should be given the patient, as they are apt to become soiled by the mouth-secretions.

7. Those who minister at the bedside should be especially careful as to personal contamination and disinfection from the moment they enter the room.

8. The nostrils should be taken thorough care of, as the morbific matter which finds its way into these parts will, in the dry state, easily find its way into the atmosphere of the room, thus making the spread of the disease more probable. Stickler (Med. Rec., Sept. 9, '99).

SINUSITIS, ACUTE CATARRHAL.

Acute catarrhal sinusitis with patent ostium usually develops during the course of an acute rhinitis or more especially in connection with an acute exacerbation of a chronic or hypertrophic rhinitis. The subjective symptoms are discharge, mucus at first, which changes rapidly into a thin, canary-colored purulent fluid, often excessive in amount, that runs freely from the nostril or passes into the naso-pharynx. The patient often experiences an unpleasant odor that is not apparent to others. The discharge in many cases continues free for a week or more, then diminishes and ceases in from two to three weeks. Pain is not marked, but there is usually a sensation of slight pressure over the region of the antrum and some tenderness on pressure over the cheek and brow. There is malaise, slight fever, and loss of appetite, sometimes constipation and insomnia—from the annoyance due to the excessive discharge. On inspection the discharge can be seen in the middle meatus or dripping from the middle of the outer border of the middle turbinate. There is usually some hypertrophy or more often an intumescent condition of the turbinates. The prognosis is favorable. It is rarely continued as a chronic disease.

Treatment.—The patency of the ostium should be carefully maintained by applications of cocaine made by the physician, or a small amount of powdered sugar of milk containing 4 per cent. of cocaine may be intrusted to the patient with directions to insufflate a few grains of the powder three times a day if the nose is stopped. Ingals's formula, as fol-

lows, is an excellent preparation for this purpose:—

℞ Sodii bicarb., 1 grain.
Sodii biborat., 1 grain.
Mag. carb. levis, 3 grains.
Sacch. lact., q. s. ad 100 grains.
Cocain. mur., 4 grains.
M. Ft. pulv.

Mild antiseptic douches followed by oily sprays will add much to the patient's comfort. In some cases swelling of the tissues is reduced for several hours by the application of a solution of adrenals. To reduce the engorgement of membranes, a trial of the injection of hot air into the nares, as used by E. L. Vansant for the relief of frontal headache, is recommended. Internally tonic doses of nux vomica and quinine are indicated, and usually the discharge is favorably affected by the administration of belladonna and camphor. Henry G. Ohls (Jour. Amer. Med. Assoc., July 15, '99).

SPRAINS.

Treatment.—The Gibney treatment of sprained ankle described as follows: Ordinary adhesive plaster is cut into strips one-half inch wide and in two lengths: twelve and eighteen inches. As soon as the patient is seen, one of the longer strips is placed around the ankle, parallel to the sole of the foot. Beginning in front of the big toe, the strip is carried around the ankle just above the contour of the sole, and the end is brought back across the top of the foot to about the point where the strip began. It is well to place, overlapping this initial strip, a parallel piece. These strips should be drawn as tightly as possible. Next another strip should be placed at right angles to them, which makes it run parallel to the back of the leg. One of the shorter strips should be selected for this purpose. Beginning well behind and above the ankle, this strip should be carried down around the sole of the foot and brought up on the other side of the leg, making, as it were, a stirrup for the foot. This strip is closely applied. Now the strips should be applied alternately, first one around the ankle parallel to the sole, then one parallel to the back of the leg, each one overlapping the one previously applied, running in the same direction, to some extent until the entire foot is inclosed in a boot of adhesive plaster, having the appearance of a shoe in which part of the heel has been cut away. Over this dressing is now placed an ordinary roller bandage. The patient should be careful for a day or two, when he can begin to move around rather freely. This dressing should be kept on until the pain and swelling have subsided. If the dressing becomes loose, it can be reinforced by additional strips placed over the loose ones. J. H. Adams (Railway-surg., Jan. 10, '99).

STERILIZATION OF THE HANDS.

Based upon personal experiments and those of others, the following propositions are found to be approximately correct:—

1. None of the methods of sterilizing the hands can be absolutely depended upon. Many positive results are arrived at by means of faulty experimental technique, the culture-media becoming impregnated with antiseptics, the skin temporarily hardened by alcohol, formalin, etc., or the hands not subjected to sufficient maceration and friction in the culture-medium.

2. Under circumstances where it seems desirable to do so, much may be accomplished by sweating the hands in a hot-air oven, by wearing rubber gloves for some time prior to an operation, or by

immersing the gloved hands in hot water. Mere prolonged soaking in very hot water, although not so effective as dry, hot air, must have some favorable effect. It is difficult to understand, however, how the sweating method can dispose of all the micro-organisms beneath the nails. The procedure will hardly be extensively employed, owing to its inconvenience.

3. Excessive brushing beneath the nails, as much even as the sensitive tissues will tolerate, seems merely to stir up the bacteria when carried beyond a certain point. We can hope to accomplish little by this means.

4. So far, the only really reliable means of rendering the hands aseptic is to incase them in sterilized rubber gloves. But if the gloves become torn, as they often do, the danger of infection is considerable, owing to the bacteria which have accumulated beneath, from perspiration.

Coating the hands with various substances has been tried and found ineffectual.

Cotton gloves, although they soon become contaminated by exudations from the skin, probably do some good, especially if frequently changed, by filtering out the bacteria, as it were, and preventing their entrance into wounds. Leonard Freeman (Annals of Surgery, Oct., '99).

SYSTOLIC MITRAL MURMURS.

Personal studies in regard to systolic mitral murmurs may be summarized as follows:—

Mitral systolic murmurs may not only be heard at the mitral area at the apex and extending toward the axilla, but also at the mitral area at the back, along the left border of the heart, in the second left interspace, at the base, and at the "valvular" area.

Anæmic murmurs are not confined alone to the pulmonary area and second left interspace. They extend by varying gradations around the left border of the heart, to the apex, and to the mitral area in the back, thus gradually assuming the characteristics of a true mitral regurgitant murmur. The transmission to the mitral area in the back may exist, whether the murmur is heard at the apex or not, and even in what appear in front to be typical anæmic murmurs. We find a dividing-line between the so-called anæmic murmurs and the mitral murmurs. The presumption that these different gradations in the distribution of the murmur all have a common origin is strengthened by finding these different gradations successively in the different stages of the same case. It is practically proved by finding all these gradations in healthy hearts which have been subjected to the same severe exhausting strain. Weakened muscular action of the heart exists in anæmia as a result of poor nutrition. Weakened muscular action is an adequate cause of mitral insufficiency, whether dilatation exists or not.

The points which are new in this demonstration are the study of the area of the distribution of these murmurs rather than the point of maximum intensity, the demonstration of the transition-stages between the anæmic murmurs and the mitral regurgitant murmurs, the demonstration of the frequency with which anæmic murmurs are heard in the back, and the importance placed upon the transmission of murmurs by pulmonary tissues. H. D. Arnold (Jour. Amer. Med. Assoc., July 15, '99).

TOLUIDIN-BLUE IN EXTERNAL INFLAMMATORY DISEASES OF THE EYE.

Toluidin-blue is of value in the treat-

ment of the external inflammatory conditions of the eye. The strength of the solution that has given the best results and proved the most satisfactory is 1 part in 1000. Stronger solutions produce a much more intense stain of the tissues and surrounding skin, and do not appear to be any more effective than this solution. The affected part should be cleansed with some cleansing lotion,—boric-acid or salt solution,—it being used with sufficient force to get rid of the accumulated secretions, and then it should be flushed thoroughly with the solution of toluidin-blue; and, after it has remained in contact with the parts for awhile, the excess is washed off with the solution of boric acid, or with whatever lotion one is accustomed to employ. As every particle of muco-pus is stained a deep blue, none can remain on the conjunctiva without being detected. The stain on the fingers and surrounding skin is readily removed with a moist pledget of absorbent cotton. The more copious the discharge, the more frequently the instillations have to be made.

The solutions seem to be of special value in those varieties of conjunctivitis accompanied by marked discharge, such as the acute contagious and the purulent, the discharge after a few applications becoming markedly lessened. In corneal ulcers and abrasions it not only promotes the reparative process, but stains them a deep blue, thus enabling one from day to day, at the time of treatment, to note the progress in size. In purulent dacryocystitis the results are equally good. It is best to cleanse the duct with the boric or saline solution first, and then to follow with copious irrigations of the solution of toluidin-blue. If the solution does not regurgitate into the conjunctival *cul-de-sac* or drip into the nose, it is allowed to remain in the duct. If, however, there are some sinuses or pockets in which the solution has accumulated and from which it is constantly oozing either from the canaliculus or from the nasal duct, it is better to follow the toluidin-blue irrigations with some colorless solution. Clarence A. Veasey (Penna. Med. Jour., Aug., '99).

TREATMENT OF PATIENTS AFTER ABDOMINAL SECTION.

Sparteine sulphate is of decided value as an immediate stimulant to the heart, while digitalin may be used for a more lasting effect. The physiological action of alcohol is so nearly identical with that of ether and chloroform that its utility is to be doubted when the system is saturated with one of these agents. Calomel is the most generally satisfactory purgative. The rectal tube is of little value for the relief of gaseous distension. In the place of morphine, codeine phosphate and chloral-hydrate by the rectum are used for the relief of pain. To relieve the intolerable pain, the rectal injection of normal salt solution is employed, a half-pint being given every two to six hours. A half-ounce of very hot water by the mouth may be allowed every hour after the first four. Only when it is absolutely unavoidable should an abdominal section be done in the country and the after-treatment left to a practitioner inexperienced in this work. C. L. Bonifield (Boston Med. and Surg. Jour., Aug. 3, '99).

TUBERCULOSIS OF FASCIA.

The fasciæ of various parts of the body are not infrequently the primary seat of tuberculosis. The symptoms of fascial tuberculosis are a slowly-developing swelling accompanied by little or no pain, and a local rise of temperature which can be detected by a sensitive

hand. The general temperature rarely rises above 99° F. There is no change in color until the disease approaches the surface, when the skin will become red at first and later purple in spots. These purple spots finally give way and sinuses are formed. After the sinuses are formed a secondary pyogenic infection takes place, and the patient begins to suffer pain. There is a marked difference in the effect upon the general health in different cases. In some, the health may be little affected for a long time, or until sinuses form and the mixed infection takes place, after which there is liable to be a rapid decline in health. In others, mixed infection will occur before sinuses form, and the patient will have a high temperature and other symptoms of a phlegmon. The diagnosis is to be made largely by exclusion. At times it will be impossible to make a positive diagnosis without an exploratory incision. While fascial tuberculosis may be primary, in the vast majority of cases it is secondary. Most careful search should always be made for foci in neighboring lymphatic glands, bones, and joints before accepting a diagnosis of fascial tuberculosis. James E. Moore (Jour. Amer. Med. Assoc., Aug. 12, '99).

VOMITING OF PREGNANCY.

In performing abortion in acute pernicious vomiting of pregnancy, an editorial suggests the following method as best meeting the situation's needs:—

An hypodermic injection of strychnine and digitalis, a high rectal injection of a hot artificial blood-serum, and moderate anæsthesia with ether. Then rapid dilatation of the cervix to a degree depending on the period of pregnancy. For less than eight weeks' gestation, the cervix need not admit more than the end of the little finger. If the case is at the limit at which this disease is apt to appear—fourteen weeks—dilatation need not admit more than the ring finger. Such dilatation can be secured in a few minutes. A small, sharp curette should then be introduced, and made to not only thoroughly separate deciduæ vera and serotina, but to break into small pieces the entire contents, including the embryo. The curette will then be used to bring the *débris* to the internal os uteri, when it will pass out. The curette can then repeat this action until all the larger parts of the ovum have been expelled, after which sterilized water can be used to wash out the remainder. By this rapid method hæmorrhage will be very slight. Editorial (Obstetrics, Aug., '99).

In the treatment of vomiting of pregnancy:—

1. The abnormal irritability of the nervous system, including the vomiting centre, is to be allayed by keeping the patient in the horizontal position, by attention to the skin, bowels, and kidneys, using rectal and, if necessary, hypodermic injection of salt solution.

2. The hysterical condition which is so commonly found present should be controlled by strengthening the will and influencing the dominant ideas of the patient.

3. All sources of peripheral irritation should be discovered and treated.

4. In extreme cases subcutaneous saline injections serve the threefold purpose of (*a*) dilating the blood and increasing the vascular tension; (*b*) eliminating toxins through renal and intestinal emunctories; (*c*) furnishing two most important kinds of food.

5. Induction of abortion is never indicated. At a stage when it is safe and efficient it is not necessary, and in extreme cases it adds greatly to the danger, rarely stops vomiting, and can be su-

perseded by the artificial serum. Bacon (Amer. Jour. Med. Sci.; North Carolina Med. Jour., Aug. 5, '99).

WASHING OUT THE PELVIS OF THE KIDNEY.

A simple method of irrigating the pelvis of the kidney consists of a No. 6 French catheter, an ounce bulb, and a common exploring aspirator with the ordinary three-way stop-cock, all connected by rubber tubing. The catheter with a stylet is introduced in the ordinary manner through the Kelly speculum. The catheter is then passed up as far as possible without force; then, the stylet being withdrawn a couple of inches, the catheter is passed farther, and so on, until the pelvis of the kidney is reached; then, by exhausting the contents of the pelvis of the kidney, they can be drawn into the bulb and inspected. If pus is found and it is decided to wash out the kidney, the bulb can be detached from the catheter, filled with boric-acid solution or other disinfecting fluid, and, by reconnecting and reversing the stop-cock, the fluid can be injected into the pelvis of the kidney, again withdrawn until the fluid comes away clear. To medicate the pelvis the bulb can be filled with proper quantity of medicament, which in its turn is forced into the pelvis of the kidney, where it is left by the withdrawal of the catheter. Tuckerman (Cleveland Med. Gaz., July, '99).

WOUNDS OF THE FEMALE BLADDER.

Accidental wounds of the bladder made in the course of operating, whether extraperitoneal or intraperitoneal, should be closed immediately, and the operation continued as if the accident had not occured, and notwithstanding the fact that drainage is not used, there will be little or no danger of peritonitis, extravasation of the urine, or hæmorrhage. It is of great importance when breaking up adhesions and removing tumors, or separating the bladder from the anterior vaginal wall and uterus, to be certain whether or not the bladder has been injured. This may be tested by the injection of saline solution, or by the uterine sound. Catgut is undoubtedly the best material for suturing the bladder-wall, and no harm will result in case the suture is passed through the mucous lining of the bladder. A large proportion of all fatal cases of rupture of the bladder that have been operated upon die from faulty stitching. In injuries of the posterior wall of the bladder the sewing process is facilitated by the use of the Trendelenburg posture. In extensive intraperitoneal wounds of the bladder, where the vaginal wall is intact, it is best in the after-treatment to drain by means of a vesico-vaginal fistula, which promptly heals in the majority of instances, without operative interference, as soon as the sutures which hold its edges apart are removed. When the damage is not extensive, or when it occurs in the inferior wall, the peritoneal cavity having been opened, the bladder wound should be sutured, and the viscus drained by means of a self-retaining catheter, or by having a catheter passed every two or three hours. The healing of the wound may also be aided by the position of the patient in bed. Before operations on the pelvic organs are begun, and after the administration of the anæsthetic, the surgeon should himself empty the patient's bladder by means of the catheter, instead of leaving this for the nurse to do, before placing the patient on the operating table. When care is taken there is no reason why a recent intra-abdominal wound of the bladder should not be sutured and the abdomen closed without drainage than in the case of a wound's

occurring in the bowel. Frederick H. Wiggin (Jour. Amer. Med. Assoc., Sept. 9, '99).

YELLOW FEVER.

The conclusions from the report of Surgeons Wasdin and Geddings, of the United States Marine-Hospital Service, on the nature and etiology of yellow fever, are as follow:—

1. The micro-organism discovered by Professor Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides" is the cause of yellow fever.

2. Yellow fever is naturally infectious to certain animals, the degree varying with the species; in some rodents local infection is very quickly followed by blood-infection; and, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

3. Infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

4. In many cases of the disease, probably a majority, the primary infection, or colonization in the lungs, is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

5. There is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the bacillus icteroides cannot be found in the blood or organs in which it might be deposited therefrom.

6. There exists no causal relationship between the bacillus X of Sternberg and this highly-infectious disease, and the bacillus X is frequently found in the intestinal content of normal animals and of man, as well as in the urine and the bronchial secretion.

7. So far as the commission is aware, the bacillus icteroides has never been found in anybody other than one infected with yellow fever, and, whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.

8. The bacillus icteroides is very susceptible to the influences injurious to bacterial life, and its ready control by the processes of disinfection, chemical and mechanical, is assured.

9. The bacillus icteroides produces *in vitro*, as well as *in vita*, a toxin of the most marked potency, and from present knowledge there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

Diagnosis. — After several months' work with yellow-fever patients and with dogs, and after numerous experiments on the urine of cases of pneumonia, of typhoid, of malaria, and of all combinations of other diseases with malaria, whose symptoms might resemble yellow fever in any way, there was found by a process of exclusion the following reaction, which gave a successful diagnosis of yellow fever and no other disease with all the men and dogs personally experimented upon:—

Four and a half cubic centimetres (or one fluidrachm) of urine is poured into a test-tube and a cubic centimetre and a half (or a fluidscruple) of sulphuric acid is added and shaken well; then, after cooling the mixture by putting the lower part of the tube in cool water, a cubic centimetre and a half (or one fluidscruple) of chloroform is added to the

mixture in the tube, shaken thoroughly, and the tube put in a standing position and the chloroform allowed to settle to the bottom. The chloroform becomes a sediment at the bottom of the tube and assumes, within twenty-four hours, an opaque, dirty, yellowish-white or an opaque, dirty, yellowish-gray color. Above the chloroform rests a brownish liquid, and, between liquid and chloroform sediment, a pink or reddish streak forms. Sometimes the part of this interlying streak near the liquid is bluish and that near the chloroform is pink or reddish, but the blue turns gradually to pink or red after some days; usually this streak is only pink or reddish. By keeping this reaction in the test-tube for some days or weeks all these colors become more pronounced, or darker. After a little practice with this reaction anyone can see from the color of the sediment that yellow fever is present, or not, within an hour, and as the eye becomes more accustomed to it a few minutes suffice for a diagnosis. John C. MacKowen (Jour. Miss. State Med. Assoc., May, '99).

The Louisiana State Board of Health has issued a circular embodying the rules arranged by the late Prof. Samuel Bemiss for the diagnosis of yellow fever. The following groups of symptoms shall be considered to indicate yellow fever:—

Group 1.—A person after a sudden attack has a fever of one paroxysm, attended with marked congestion, or bloodstasis, of the capillaries of the surface, conjunctivæ, and gums, with a history of probable exposure to infection, and no history of a previous attack of yellow fever.

Group 2.—A person after a sudden attack has a fever of one paroxysm, followed by unusual prostration, albuminous urine, yellowness of the conjunctivæ or skin, and having no positively authenticated history of previous attack of yellow fever.

Group 3.—A person has a fever of one paroxysm, albuminous urine, black vomit, suppression of urine, and a general hæmorrhagic tendency under circumstances where exposure to infection is a possibility.

Suspicious Cases of Yellow Fever.—The following symptoms, associated with fever of one paroxysm in a patient who has been apparently exposed to infection, and has never had yellow fever, shall be held to justify in any of the six following cases a suspicion of this disease, viz.: (1) suddenness of attack, either with violent pain in the head and back, injected eyes and face, or marked congestion of the superficial capillaries; (2) want of that correlation between pulse and temperature usual to other forms of fever; (3) albuminous urine; (4) black vomit; (5) general hæmorrhagic tendency; (6) yellowness of the skin.

The following cases shall also be suspicious: (7) any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not yellow fever; (8) any case respecting which efforts are made to conceal its existence, full history, and true nature. In the event of death in a suspicious case a post-mortem examination should be made, when practicable. Both before and after death yellow fever is especially and pre-eminently characterized by the fact that it is *par excellence* an hæmorrhagic fever, marked by capillary congestion and its sequelæ; hence post-mortem evidence of a general hæmorrhagic tendency in internal organs, especially in the digestive, in preference to the urinary tract, shall be held to confirm the suspicion. (New York Med. Jour.; Univ. Med. Mag., Sept., '99.)

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Cyclopædia of the Year's Literature.

CONSTIPATION.

Treatment. — In functional constipation A. J. Jenkins[1] has obtained success by giving the new laxative salt of lithia, thialion. A teaspoonful should be dissolved in a cup of hot water taken in the morning on rising, while at the same time excess in nitrogenous foods is to be avoided. The remedy should be gradually discontinued as the stools become regular.

[1] Interstate Med. Jour., Oct., '99.

According to an editorial,[2] in cases of constipation, with a congested, inflamed, or ulcerated sigmoid, with marked constipation or several muco-feculent stools per day, at times even mixed with pus or blood or mucous casts of the bowel, tenderness of varying degree in the region of the sigmoid—the left iliac region—in addition to more or less tumefaction, massage is not a good thing. The proper treatment consists in a thorough cleansing of the sigmoid with a high injection of warm water by means of a rectal bougie connected with a suitable syringe, bulb or fountain. This should be done daily. Suitable laxatives or aperients, as may be needed, are also to be given. If there is evidence of ulceration, some antiseptic injection may be used, as lysol or creolin. If this is not adequate to soon heal the trouble, then an astringent enema is to be used after the antiseptic enema. An excellent one consists of 2 or 3 ounces of water containing 10 grains of nitrite of silver or of sulphate of copper to the ounce. This should be injected high up. Suitable food, notably of fruit and liquids, should be ordered, together with a regular time for stool.

Schellong[3] states that purgatives should be avoided as much as possible in the treatment of habitual constipation, and that physical methods of cure are to be employed by preference. For the last eight years all cases of habitual constipation have been personally treated by methodical intestinal injections, and in most cases the object was accomplished in four to six weeks. The patient is instructed to inject exactly at the same time every morning, either on rising or, better still, after breakfast, $^1/_2$ pint of water of the temperature of the room, by means of an English rectal tube, while lying on the left side with knees well drawn up. The water should be allowed to flow slowly into the rectum from a slight height, and the tube should be passed as far as possible into the intestine. As soon as a desire for stool comes on the injection should be stopped for a second. After removal of the tube the water should be retained for a short time. No purgative is to be used during this whole period of treatment. The patient should not have a stool at any other time of the day, but should endeavor to retain it if a desire to defecate occurs in the interval. In the morning strong coffee, with little Graham or rye bread and some honey should be eaten; vegetables should be taken freely; outside of this the diet should be mixed; before retiring, 6 plums should be eaten. Tea should be avoided. A daily walk is to be taken. If no stool has occurred after a week, an irrigation with warm water ($^1/_2$ to 1 quart) should be made. The water is allowed to flow in slowly, with the assistance of another person, and allowed again to return by lowering the irrigator, and this is to be repeated for ten or fifteen minutes, until the returning water shows a distinct admixture of fæcal matter. The warm water is then, as much as possible, syphoned off, thrown away, and a glass of cold water is poured slowly into the irrigator, whose rectal tube has been removed; this is usually followed by a copious stool. Should the stool be insufficient at first, the same procedure may be repeated on the following day.

DIPHTHERIA.

Bacteriology.—J. H. Adair[4] says the following conclusions are based upon a study of 1075 cases, comprising children

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[2] Med. Council, Oct., '99.
[3] Ther. Monats., xi, 621, '98.
[4] Northwestern Lancet, Sept. 1, '99.

of all ages from one to eighteen years, among whom were encountered 134 cases of clinical diphtheria and from whom were obtained 8000 cultures. A portion of these children, 275 in number, were kept in absolute individual isolation, and under conditions admitting of the most careful oversight, in which the chances of reinfection were reduced to the minimum. While the Klebs-Loeffler bacillus is undoubtedly present along with staphylococci and several other varieties of bacilli in every case of diphtheria, its mere presence is no guide as to its virulence or non-virulence. This bacillus, or one morphologically identical with it, is present in the throats in nearly one-third of all the children and possibly adults, although this last has not yet been demonstrated. It is found as frequently in the throats and noses of those who have never had clinical diphtheria as in those who have sustained acute attacks of the disease, but in the former is often of variant type. It is found more frequently in the nose than in the throat. Abnormal conditions of the tissues of the throat and nose have no effect in determining its presence. The theory of many that the apparent non-virulence of the bacillus in the throats of healthy children is due to toxin absorption and the consequent immunity produced thereby is plausible, but not proved. Efforts to permanently dislodge the bacillus from the tissues of the throat and nose are, in the present state of therapeutics, futile and unavailing. The bacteriological findings in the above were made in the laboratory of the State Board of Health under the direct supervision of Professor Westbrook and Drs. Wilson and McDaniel.

Complications. — In diphtheritic paralysis Francis Huber[5] states that the picture varies with the nerves affected, and may be local or general in character. Ordinarily the soft palate is first attacked; the nasal twang to the voice, perhaps regurgitation of fluid through the nose, and some difficulty in deglutition are observed. If the constrictors of the pharynx are involved, food enters the larynx, and a spasmodic cough results, somewhat croupy in character. Many of these patients, unless the trouble is recognized and energetically treated, die of an aspiration pneumonia. Upon inspection the soft palate appears relaxed and immovable, with diminished sensibility and absence of reflex. This may be the only manifestation, or a general neuritis may be present. The extrinsic and intrinsic muscles of the eyeball are next involved—squint, ptosis, and loss of power of accommodation are observed. The paralysis may be confined to one limb,—commonly both legs and arms are affected,—or paraplegia may result. The head's falling back may be due to weakness of paralysis of the muscles of the neck. Frequently there is a weakness of the lower extremities, and sometimes general muscular incompetency, but no real paralysis, with the absence of tendon-reflex. The danger is extreme when the respiratory muscles or heart are implicated. In all cases, even those mild in character, the heart should be carefully watched. Heart-failure may be rapid and more or less sudden or come on slowly. Fatal syncope may occur at any time during the onset of the disease, at the height of the affection, or subsequently during convalescence. Pallor, weakness, and fainting-spells, with variable pulse, are danger-signals not to be disregarded. Patients must not be permitted to exert themselves in any way. Above all, they should be cautioned

[5] Pediatrics, June 1, '99.

against assuming the upright position. The bladder and rectum usually escape. In rare cases ataxia has been observed. Post-diphtheritic paralysis of cerebral origin, giving rise to hemiplegia, is extremely rare, and yields a very unfavorable prognosis. Sensory paralysis may occur and present itself in the form of anæsthesia, amaurosis, or deafness. The amaurosis may be due to existing nephritis; therefore, in making the diagnosis, a possible renal complication should be excluded. A large number of cases of paralysis run a favorable course in from four to ten weeks.

I. A. Abt[6] states that diphtheritic paralyses manifest themselves clinically as (1) early diphtheritic paralyses, (2) post-diphtheritic paralyses, and (3) the hemiplegic forms. They are seen when antitoxin is administered late, or in neglected cases in which the physician is not called in until the third, fourth, or fifth day of the disease. As a rule, it may be dogmatically stated that, if antitoxin is administered on the first day of the disease, the paralyses will not occur.

Prophylaxis.—J. D. Dunham[7] gives the following suggestion for the restriction of diphtheria:—

First, the bacteriological examination of every patient with a sore throat, not only for the sake of the patient, but also in the interest of others, who, if infected, may have a more serious form of the disease. Second, the isolation, when practicable, and an attempt at the removal of diphtheria bacilli in every case of convalescents and others harboring the germs in their throats. Third, a watchful care should be exercised by physicians to avoid contamination from diphtheria patients, and efforts should be made to free their throats of germs when present.

H. Richardière and L. Tollemer[8] have made a series of experiments in the Bretonneau pavilion of the Hôpital Trousseau, to discover whether the bacilli were present in the air of apartments devoted exclusively to the treatment of diphtheritic patients before and after disinfection had been practiced. The result of these observations showed that virulent diphtheria bacilli were present in the dust floating in the air of the Pavilion Bretonneau, which had not been disinfected for a long time, but that they were absent after disinfection. Thus is shown the importance of frequent disinfection of wards devoted to contagious cases and the necessity for precautions of rigid isolation. They show, also, that it is necessary to employ daily some means of removing, without at the same time stirring up, the dust of such apartments.

Aust[9] gives the following rules in regard to prophylaxis in diphtheria:—

1. Measures against diphtheria should be instituted before the disease breaks out. To these belong: (*a*) general cleanliness; (*b*) sanitary arrangements of the premises; (*c*) proper dwellings, schools, and hospitals; (*d*) special dead-houses to keep those who died of diphtheria, with their compulsory use by the people; (*e*) the propagation of knowledge of hygiene among the people; (*f*) special care to increase the individual immunity by invigorating the body.

2. During epidemics the following measures should be adopted: (*a*) compulsory notification by physicians and attendants; (*b*) precise diagnostication, by the aid of the bacteriologist, if possible; (*c*) careful isolation of the sick in their own houses or in well-established

[6] Phila. Med. Jour., Oct. 28, '99.
[7] Med. News, Sept. 30, '99.
[8] Gaz. des Mal. Infan., No. 10, '99.
[9] Deut. Viertel. f. Offentl. Gesundh., Zweites H., '99.

hospitals — eventually compulsory removal to the latter; (*d*) exclusion of the children of the infected family, as well as those of the neighbors, from school attendance until the disease is well over; (*e*) prevention of close association and assemblage of children; (*f*) thorough disinfection of the sick-room and everything that came in contact with the contagion—articles of slight value should be destroyed by fire; (*g*) regulation of the transportation of the sick; (*h*) special regulation for the burial of the dead; (*i*) extensive employment of antitoxin as both a curative and prophylactic agent; (*j*) the institution of a *personnel* of nurses who fully comprehend the necessities of hygiene. To accomplish all this, the co-operation of a well-informed people is especially indispensable.

Treatment. — According to Camberwell,[10] diphtheria antitoxin should be used immediately the disease is discovered. The statistics of the Metropolitan Asylums Board show that, while, even with the delay occasioned by the removal of the patient to hospital, cases injected on the first day show a 4-per-cent. mortality, a delay of twenty-four hours causes a rise to 15 per cent., and that this increases at the rate of about 7 per cent. *per diem*. A supply of antitoxin should be kept at some point or points where it is constantly accessible, and, if necessary, the services of a medical practitioner should be available for its administration.

William Hessert[11] says that failure to obtain the best results from antitoxin is due largely to too small dosage and too late use in the disease. Large initial curative doses should be injected as early as possible. Initial doses of 1000 to 4000 units are administered to children with impunity; 2000 units is good average dose for case of moderate severity. One large initial dose is better than several smaller doses injected at intervals. The dose should be repeated in twelve to eighteen hours if necessary; 6000 to 8000 units may be injected if required. The untoward after-effects sometimes following injection are due mainly to the presence of irritating by-products in the serum. The occurrence of pains in the joints; erythematous, urticarial, or morbilliform rashes; and occasional pyrexia are observed. The effect on the temperature is variable, as the fever is not constant or may even be absent in diphtheria. There is no conclusive evidence that antitoxin induces or increases the tendency to heart-failure. Antitoxin does not cause renal complications. There will be no local reaction, provided the serum is fresh and of standard quality, and is injected with ordinary precaution. Thorough friction of the site of the injection with a pledget of cotton saturated with alcohol, or even a wet towel, is all that is required. Sealing with collodion is not absolutely essential, nor is massage required.

An editorial[12] says the published statistics, in general, of the mortality from diphtheria under the antitoxin treatment, convincing as they must be to every unbiased mind, make a less favorable showing for the method than they should, for the reason that many of them are composed largely of hospital reports, and it is well known both that, on the one hand, cases sent to hospitals do not come under treatment early, and, on the other hand, that it is precisely in the first day or two of the disease that antitoxin is most effective. There is great unanimity of opinion among cli-

[10] Lancet, Dec. 10, '98.
[11] Phila. Med. Jour., Oct. 28, '99.
[12] Internat. Med. Mag., Oct., '99.

nicians who have thoroughly tried the remedy that it accomplishes brilliant results when given in the earliest stages, and that it is comparatively inefficacious when its administration is delayed until the third day or later, when the gravity of the affection has been greatly increased by streptococcic infection.

In regard to the use of diphtheria antitoxin in general practice, J. R. Armstrong[13] concludes, from a number of patients, that, where the antitoxin was used (although only for patients who were very seriously ill), recovery was much more rapid. The membrane disappeared from the throat earlier. In the patients treated with antitoxin convalescence was practically begun, while in non-injected patients signs of weak heart-action continued for some time longer. The former were up and about during the second week; the latter remained ill several weeks longer. The mortality in the former was 9 per cent., and in the latter, who were mildly affected, 20 per cent. Fifteen hundred units—the liquid, and not the dried, serum being used—were injected under the skin of the abdomen. Very infrequently a second injection was required after an interval of two or three days, the indication for repetition being absence of improved general condition and continued presence of the membrane after three or four days. Option should be given every patient as to injection in very mild attacks, and in all but these injections should be insisted upon. Perchloride of iron, acetate of ammonia, and brandy should also be given internally.

Louis Fischer[14] has used dry antitoxin in five cases of diphtheria. There was no distinct reaction immediately following the injection, nor was there any later in the disease. All five cases recovered without any sequelæ. Not one of the children complained of the pains in the joints following injection. In none of the cases injected was there an antitoxin rash following the injection of the dry antitoxin. No more than 2000 units, or the contents of two bottles, each containing 1000 units, were necessary to effect a cure. Dry antitoxin is readily soluble in sterilized water, and contains no foreign antiseptic. The remedy must be dissolved immediately before using by putting from 15 minims to 1 drachm of cold sterilized water by means of a sterilized pipette into a bottle of antitoxin. The greatest caution must be used not to contaminate the solid serum, as it contains no antiseptic, nor should any be added to the water used for dissolving the serum.

In the treatment of diphtheritic paralysis Francis Huber[15] insists upon absolute rest, keeping the patient in a well-ventilated room, and carrying out the usual hygienic and sanitary measures. Should it be considered advisable to take the little patient up or out, great care should be observed, and the upright position assumed very gradually. The general condition must be improved by good food, good air, and tonics, particularly iron in a digestible form. The remedy *par excellence* is strychnine, which should be given in full doses, per mouth, or, in severe cases, hypodermically. Under ordinary circumstances and in mild cases the remedy may be given by mouth in divided doses three times a day. The strychnine should be given subcutaneously when the constrictors of the pharynx are involved, when the heart or respiration shows the toxic effects of the diphtheritic poison,

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[13] Lancet, p. 574, '99.

[14] Pediatrics, July 15, '99.

[15] *Ibid.*, June 1, '99.

or when the muscular incompetency is pronounced. If there be much difficulty in swallowing, the various devices practiced in feeding after intubation may be advantageously resorted to. In such cases strychnine given hypodermically, in the cervical and clavicular regions, two and three times daily, causes a decided improvement in the symptoms within forty-eight hours. Careful massage of the extremities will improve the cutaneous circulation, and the condition of the muscles. If respiration is endangered electricity must be employed in addition to artificial respiration, rhythmical traction of the tongue, and the subcutaneous administration of strychnine.

Woollacott[16] summarizes the influence of antitoxin on diphtheritic paralysis as follows:—

Up to the present the percentage of paralysis has increased, on the whole. There is some evidence that large doses —*i.e.*, not less than 4000 units—of antitoxin are more effective than small ones, both in preventing paralysis and diminishing the mortality due to it. The earlier antitoxin is given in diphtheria, the less likely is paralysis to follow. Should it occur after early injection, it will probably be mild and of comparatively short duration. The type of paralysis has become less dangerous to life. Finally, diphtheritic paralysis has become more prone to attack the young. The full value of antitoxin is only obtained by using it early and in efficient doses.

G. H. Bell[17] cured a case of diphtheritic conjunctivitis by antitoxin. Cultures made from a piece of the membrane showed the Klebs-Loeffler bacillus. Eleven hundred units of antitoxin were used three days after admission, and two days later 900 more, both injections being into the thigh. The local treatment consisted at first of boric acid, 4 per cent.; and then of bichloride-of-mercury solution, 1 to 5000. The second injection cleared away all evidence of the membrane. The constitutional condition became normal, and the child made an uneventful recovery.

Wenner[18] states that in the diphtherial department of the Children's Hospital at Zurich from October 25, '94, to December 31, '98, there were received 512 patients, of whom 52 died (10.1 per cent.). Diphtheria bacilli, however, were found only in 432, of whom 44 died (10.18 per cent.). Of these 432 cases only 8 were not treated with antitoxic serum. Comparative observations show that the mortality of all the cases has been reduced from 43 per cent. between 1874 and 1894 to 10 per cent. between 1894 and 1898; in the cases in which intubation or tracheotomy was required the mortality has been reduced from 63.7 per cent. to 19.4 per cent., and in those requiring no operative intervention from 15 per cent. to 5.8 per cent. After the injection extension of the disease to the pharynx and the larynx and exacerbation of the stenosis are not observed. In no cases has death or injury to health resulted from the injections.

Charles Bolton[19] holds the blood-serum responsible for the rashes, pains, and fever in diphtheria. The rashes are urticarial and erythematous, the latter being divided into 4 subgroups: 1. Resembling erythema multiforme. 2. Simple erythema. 3. Scarlatiniform. 4. Morbilliform. All forms of rash have

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[16] Lancet, Aug. 26, '99.
[17] Med. Rec., June 10, '99.
[18] Archiv f. Kinderh., B. 27, H. 6, No. 2.
[19] Lancet, p. 891, '99.

their beginning, apparently, in the vicinity of the injection, and are more marked in this region. When joints and adjacent tissues are painful there may be slight swelling, but it is exceptional to find fluid, and the overlying skin is usually normal. Hips, knees, wrists, and hands are most commonly affected. The rash usually appears first, and the pain subsequently. The temperature-curve is irregular, varying between 100° and 105° F.; it is especially high when pain is present and with the morbilliform rash. Albuminuria is found in about 50 per cent. of the cases. The amount is small and it is present a short time only. Abscess at the seat of injection is due to infection through the needle; it is more frequent in septic cases and where scarlet fever is present. Healing quickly follows incision. Bruising of the tissue is present in 8 per cent. of the cases; it lasts from four to seven days. The complications of antitoxin treatment are very painful at times, but quite harmless.

A. Robin,[20] in answering Dr. Herman, who asks: "If antitoxin is a specific, why does it not cure all cases?" says: "1. It is not used early enough, time being given for the streptococci to develop and produce their virulent effects. 2. It is not used energetically enough, too small quantities, or at too rare intervals, being administered. 3. There is a proportion of patients who are so susceptible to the disease that antitoxin cannot cure them, just as there are patients suffering from malaria who cannot be cured by quinine or syphilitics who are not cured by mercurials and iodides."

By the use of calomel in diphtheria, T. D. Coleman,[21] in an experience extending over nine years, has only one death to record where this treatment was employed, and this case was most malignant from the start, the membrane involving the nose, pharynx, and trachea. His rule in these cases is to give a large dose of calomel at the beginning, regulating it according to the age, and then to give hourly doses until the characteristic "chop-spinach" movements appear, when the interval is increased until the drug is left off entirely. The ability of patients to take such large doses without ill effects is due to the fact that the ordinary physiological effect of the drug is overcome by the poison or toxin of the disease.

ECZEMA.

Diagnosis. — According to John T. Bowen,[22] Audry divides the cases of seborrhœic eczema into three varieties: (1) the pure and regular forms, (2) the abnormal forms, and (3) the complicated cases. Among the abnormal forms he includes cases in which the course is acute; the form erythemato-vesicular, a rare lichenoid form; and the psoriasiform variety. With regard to the latter there is much difference of opinion. Many believe, with Unna, that there are numerous cases falsely included under psoriasis which should be classed with seborrhœic eczema, while others, although admitting the similarity of certain cases, think that there are not sufficient reasons for separating them from psoriasis. In these doubtful cases a point of distinction from the usual varieties, according to Audry, is the locality, a seborrhœic eczema affecting the scalp, eyebrows, elbows, and knee. It is often accompanied by white, glistening, fatty scales. Papular elevations are rarely prominent, the affection usually appearing as scattered *plaques*, more or

[20] Internat. Med. Mag., Oct., '99.

[21] *Ibid.*

[22] Boston Med. and Surg. Jour., Sept. 28, '99.

less covered with thick, yellowish crusts. In rare instances large surfaces of the skin may be affected, and the erythrodermic form is produced.

Treatment.—In the acute erythematous stage of the eczema Josef[23] considers that a dusting-powder of some sort is all that is required; should the powder not adhere to the skin, it is better to use zinc paste (zinc. oxid., amyli puri, of each, 1 part; vaselini flavi, 2 parts).

In the exudative stage, if the eczematous area is not too extensive, liquor plumbi subacetatis (1 ounce to $^1/_2$ pint of lukewarm water) may be applied, every one to two hours. As soon as the skin becomes tense and dry, a thick layer of zinc ointment is to be placed over the affected skin, covered with a single layer of absorbent cotton-wool, and fixed by means of an elastic stocking if the eczema be on the extremities; for the trunk, calico bandages, and for the face a mask cut out of a piece of silk or calico, is used. The ointment is applied twice a day, but the old ointment is removed every third or fourth day only, by means of a mop of cotton-wool soaked in olive-oil.

After the cure of the eczema, oatmeal or milk ought to be added to the bath. After the bath it is necessary (as soon as the skin is dried) to cover the previously-diseased areas with vaselin or lanolin, and to use dusting-powder freely.

J. F. Schamberg[24] finds the following a useful remedy in cases of eczema complicated with constipation and anæmia:

℞ Iron sulphate, 16 grains.
Magnesium sulphate, 1 ounce.
Dilute sulphuric acid, 1 fluidrachm.
Peppermint-water, to make, 4 fluidounces.

M. Sig.: Tablespoonful in half a tumbler of water before breakfast.

Saline mineral waters are to be given and in infantile eczema fractional doses of calomel. When stomachic tonics and digestives are required, the following mixture is valuable, especially in cases suffering from atonic dyspepsia and constipation:—

℞ Tincture of nux vomica,
Dilute hydrochloric acid, of each, 4 fluidrachms.
Fl. ext. cascara sagrada, 1 fluidounce.
Tinct. cardamom. comp., to make 3 fluidounces.

M. Sig.: Teaspoonful in water after meals.

Water is an irritant in all acute and subacute cases, and should be used as little as is compatible with cleanliness. Starch, bran, or borax, if added, will lessen its irritability. In indolent, chronic cases soap and water are of therapeutic value. Crusts should be removed by applying pieces of flannel soaked with linseed-oil or olive-oil and retaining them in contact some hours. Dusting-powders are of advantage at the beginning of a vesicular eczema. Where moisture is copiously present, lotions are borne better than ointments. The simplest lotion is a saturated solution of boric acid. Sopped on every hour in acute eczema, it acts admirably in reducing inflammation. When there is much itching, resorcin or carbolic acid may be added to the wash in the strength of 5 to 10 minims to the ounce. A good plan is to apply a lotion during the day and a salve at night.

Bulkley[25] finds zinc ointment a boon to eczema, because it affords a simple and non-irritating dressing in most cases.

[23] Archiv f. Kinderh., vol. xxvi, pts. 5 and 6.
[24] Internat. Med. Mag., p. 578, '99.
[25] New England Med. Monthly, May, '99.

But it is a relatively inert and ineffective remedy when used alone, although with certain additions it often proves of the greatest service. Ichthyol, 2 to 10 per cent., and salicylic acid, powdered, 2 to 5 per cent., in zinc ointment, are often most valuable in these cases. The old tar-and-zinc ointment is as follows:—

℞ Unguent. picis, 2 drachms.
Zinci oxidi, 1 drachm.
Unguent. aquæ rosæ, 6 drachms.

It often affords the very best dressing possible, and, if correctly and faithfully applied, remains still one of the best applications for eczema. The ointment should be thickly spread upon the woolly side of lint, cut to fit the diseased surface, and it should then be bound firmly on with gauze bandage. On the face it is not often desirable to thus bind it on, but it should be reapplied as often as it is at all disturbed, even many times daily.

A device for restraining an infant from scratching and tearing itself consists in the use of a small pillow-case, with an opening at the closed end, sufficient to admit the head's being passed through it. This is drawn down upon the baby, and secured from being raised by means of a safety-pin between the legs. A few more safety-pins suffice to secure the arms in place, at the sides, thus making it impossible for the child to reach its face, or even the other hand.

Nurnberg[26] has treated eczema in thirty children, varying from two to five years of age, with small doses of arsenic. The treatment consisted in giving a child two years of age and over Fowler's solution, 1 minim; aqua dest., 1 minim. This amount was given once a day after a meal and continued for one or two weeks. The dose was increased in the third and fourth week to 2 or 3 drops. The amount given never exceeded seven drops a day. In infants and children under two years of age Fowler's solution, 1.5; aqua dest., 3.5, was given, and the dose in these cases never exceeded 5 drops a day. Often there is no sign of improvement till fourteen days have elapsed.

In the treatment of small patches of seborrhœic eczema, especially of the face, A. C. Frickenhaus[27] has found an alcoholic solution of resorcin of much service. These spots should be vigorously rubbed with a small piece of cotton-wool dipped in 25-per-cent. solution of resorcin in alcohol, and the patient should be given a 10-per-cent. solution to use in the same way at home every evening for three days. The patches will then be found to be covered over with a pellicle, which is, in part, detached. Still, the resorcin solution must be continued in the evenings for some days longer, and in addition the patient is to apply some lanolin cream to the affected places at night. Cure is usually complete in about eight days. In some very obstinate cases of eczema of the nostrils a 50-per-cent. solution of resorcin has been used with remarkable results.

In an obstinate case of pruriginous eczema in a man nearly 80 years old Jonathan Hutchinson[28] obtained success by using 10 grains of chinosol dissolved in a pint of hot water and used freely as a wash for all affected parts. After bathing an ointment of 12 grains of chinosol in an ounce of lard was applied.

Rosenbaum[29] recommends naftalan in chronic eczema. In one of his patients who had suffered for more than

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[26] Brit. Med. Jour.; Pediatrics, Oct. 1, '99.
[27] Monats. f. prak. Derm., No. 11, p. 556, '99.
[28] Archives of Surgery, July, '99.
[29] Therapist, July 15, '99.

twenty years from an obstinate eczema of both hands, with tormenting itching, the application of naftalan once a week at night was sufficient to preserve a good condition of the skin.

In chronic eczema on the hands Edlefsen[30] orders a paint consisting of pure iodine, 0.1; iodide of potassium, 0.25; glycerin, 12 parts; the paint to be applied every evening and the hands enveloped in lint. In fourteen days the disease is generally cured. In the more obstinate cases boric ointment is to be applied in the morning, and the iodine paint in the evening.

In referring to the treatment of eczema Jonathan Hutchinson[31] states that if he were required to name one remedy only for eczema he would choose tar; if two, tar and lead; if three, tar, lead, and mercury. If weak enough, and used freely enough, tar solutions will almost invariably cure eczema. Common tar-water and solutions of carbolic acid are very useful; but the solution of coal-tar sold under the name of "liquor carbonis detergens" is the most convenient and most certain remedy. It should be used, however, in extreme dilution. A teaspoonful to a pint of water is a common strength, but often it is prescribed much weaker. It should be so weak that it does not smart, and it should then be employed like water. The parts should be bathed with it, and rags soaked in it should be laid over them, and frequently wetted from outside. Oil silk should not be used,—at any rate, not in large pieces. A few small bits may be put here and there to prevent too rapid drying, but it is far better to do without it, and to rely upon very frequent rewetting. In nine cases out of ten eczema can be cured by local treatment without alteration in the diet or internal drugs. However, the avoidance of sugar, fruit, and milk should be advised, and very often salines are needed, and, in acute cases, even tartarized antimony. Milk often makes the skin itch and aggravates eczema. The main agents in the production and perpetuation of eczema are scratching and rubbing. The patient who has strength of will to abstain usually recovers; no treatment will cure those who cannot. A good bathing with tar gives relief as efficiently as a good scratching, and is not followed by reaction. Weak tar lotions may be used without much regard to stage. In a few cases, however,—very acute inflammations,—it is preferable to use lead lotion for a few days, and to add tar only when the congestion is a little abated. Very often liquor carbonis and liquor plumbi diacetatis may be prescribed in equal proportions diluted as above directed. Arsenic rarely does any good, and often irritates. Weak sulphur-baths, as at Harrowgate and Aix-la-Chapelle, often cure chronic cases, but are not certain.

GASTRIC ULCER.

Diet.—In gastric ulcer "Sister Elizabeth"[32] has found that the free use of raw white of egg is of value. The usual proportion is 2 whites of eggs to 1 pint of cold water; but, if a more concentrated form of nourishment is desired, double that number may be used without inconvenience. The whites of eggs are beaten well first, then stirred thoroughly into the water, and strained through a fine sieve before administration. The mixture is tasteless, and if given alone may be flavored with vanilla, cinnamon, etc., but when given in milk and whey it is better unflavored. After a course of nutrient enemata a teaspoon-

[30] Ther. Monats., Feb., '99.

[31] Archives of Surgery, vol. i, p. 164.

[32] The Hospital, Aug. 5, '99.

ful or two of albuminous water—*i.e.*, egg-water—every hour is a safe and nutritious way of beginning mouth-feeding again. The raw white of an egg added to rectal enemata may accomplish good results. In cases of obstinate vomiting egg-water is very useful, and will often be retained when nothing else is. Egg-water should not be added to boiling or even to very hot liquids.

According to Rost,[33] under Professor Ewald in the Augusta Hospital, systematic and exclusive nourishment by the rectum has given most satisfactory results in acute gastric ulcers and their sequelæ. Thirst is relieved by washing out the mouth or sucking ice, without swallowing any water; when thirst becomes unbearable clysters of normal salt solution are given. Every case of simple gastric ulcer admitted to the clinic is now submitted to six days of gastric repose. Narcotics are not required; morphine often provokes vomiting. All patients must be kept in bed; one hour after a cleansing clyster in the morning the first nutrient enema—milk, 6 ounces; yelk of one egg; a little salt, some farina, and red wine—is given, and two others during the day; in all, about 24 ounces daily. A soft tube of vulcanized rubber must be used, and the injection forced by gentle pressure as high up the rectum as possible, the patient being in the lateral position.

Treatment.—In gastric ulcer Olivetti[34] gives massive doses of bismuth, 2½ to 5 drachms, every morning on an empty stomach.

When hæmorrhage occurs in gastric ulcer Tripier[35] employs rectal injections of hot water at a temperature of about 120° every few hours, and allows no food to be given by the mouth.

In hæmatemesis from gastric ulcer G. E. Armstrong[36] thinks that the surgeon should interfere in cases of frequently-repeated small hæmorrhages, which persist in spite of medical and dietetic treatment, and which threaten to destroy the life of the patient; and in all cases of a large hæmorrhage which, in spite of medical and dietetic treatment, recurs. In these cases operation is advocated after the second hæmorrhage.

Tricomi[37] gives the indications for operation in the treatment of gastric ulcer as follows:—

1. Recurrent ulceration with progressive emaciation.

2. When ulceration is not improved by internal treatment scrupulously carried out for some time, operation should be performed as soon as the general condition becomes affected.

3. Obstinate vomiting with or without severe pain.

4. Hæmorrhage, not profuse, but frequently repeated.

5. Emaciation and cachexia before they have reached a marked degree.

6. Gastric dilatation.

7. Formation of a tumor in the region of the stomach.

8. Perigastric adhesions in the anterior abdominal wall.

9. The social conditions of the patients—*i.e.*, with regard to the amount of work they are obliged to do—must be considered.

Nicolayson[38] gives the result of his researches concerning the effect of gastro-enterostomy for gastric ulcer in more than thirty cases he had operated upon. In the majority of cases the result had

[33] Berl. klin. Woch., Nos. 30 and 31, '99.
[34] Brit. Med. Jour., ii, Epitome, p. 103, '98.
[35] *Ibid.*, i, Epitome, p. 12, '99.
[36] *Ibid.*, Oct. 21, '99.
[37] Prog. Méd., June, '99.
[38] Phila. Med. Jour., Sept. 9, '99.

been most gratifying, but did not come immediately, the improvement taking place gradually in the course of months. Hæmatemesis had been present in the majority of cases, and the ulcer had often been very extensive and in the vicinity of the pylorus, riding, so to speak, on the small curvature.

LOCOMOTOR ATAXIA.

Symptoms.—Hermann Schmidt-Rimpler[39] regards paralysis of the external eye-muscles along with Westphal's phenomenon, Romberg's sign, and sluggishness of the pupil as among the first symptoms in tabes. These paralyses often affect only a single muscle, and may again soon disappear. All paralyses appearing in this manner, if no particular etiological factor be present, are generally to be considered prodromic of tabes. In inequality of the pupil miosis is found unilaterally, especially in the ataxic stage of tabes, while, in the paralytic stage, mydriasis in one eye is more frequent—exactly as is the case in the beginning of the disease. The form of the miotic pupil is often elliptical.

Disease of the optic nerve in tabes is very frequent. Sometimes an amblyopia already exists without one's being able to demonstrate ophthalmoscopically an affection of the optic nerve. Later, however, the pronounced atrophy develops. Sometimes with the optic-nerve atrophy and the lancinating pains the so-called cerebral tabes develops; in this the anæsthesia of the legs, the ataxia, etc., do not appear and even the knee-reflex is retained.

If amaurosis be present, unsteadiness on the feet with the eyes closed (Romberg's symptom) is often absent.

Of the primary atrophies which have been observed in ophthalmic clinics, the greater part belong to tabes. More pronounced symptoms are often only later developed. If a close investigation be made, however, beginning symptoms —as lancinating pains, absence of the patellar reflex, etc.—will be found more often than expected. Slight ataxic disturbances are readily ascribed to the blindness.

The process in the optic nerve has no direct sequential connection with the sclerosis in the posterior columns of the spinal cord. Generally it begins in the periphery and progresses always centrally; it has been traced backward as far as into the tractus. A primary atrophy of the optic-nerve fibres is concerned.

As additional eye affections in tabes are lacrymation and anæsthesia of the cornea and of the tissue surrounding the eyes.

Diagnosis. — Seymour Basch[40] states that the gastric crisis of tabes must be differentiated from ulcer and cancer of the stomach, perigastritis, gastrosuccorrhœa, functional nervous vomiting and gastralgias, duodenal ulcer, cholelithiasis, cerebral vomiting, and the vomiting of uræmia. All the above conditions have much in common with gastric crisis,—*e.g.*, suddenness of onset, vomiting, pain, prostration, intense feeling of illness, periodicity with intervals in which the acute stomach symptoms diminish or entirely disappear, etc.,—but each condition is marked besides by certain typical characteristics:—

As ulcer of the stomach has caused errors in diagnosis more frequently than any other, the main points of differential diagnosis will be given. Pain in ulcer of the stomach begins a short time (about one-half hour) after the ingestion

[39] Hot Springs Med. Jour., Oct. 15, '99.
[40] Med. Rec., Oct. 14, '99.

of food; is of a burning, gnawing, or stabbing character; and is located at a fixed point in the epigastrium. It is markedly increased by even the slightest pressure, and may be radiated to the back. There is a close connection between the time of ingestion of food and the vomiting. Emesis always ameliorates pain or causes it to cease entirely until after the next meal. The vomited matter has two characteristics of diagnostic value, viz.: a large amount of free hydrochloric acid and the presence of blood. All these points lose their diagnostic weight in gastric crises. In the latter, if relief at all follows emesis, it is but momentary. In the absence of tabetic symptoms other than the gastric crises themselves, it may frequently be impossible to differentiate these from atypical ulcer. Gastric crises are typified by the absence of any directly assignable cause for their onset, by the absence of a local condition in the stomach to explain the severity of the symptoms, by the inconstant character of the vomitus, and by the absence of gastric symptoms between the attacks.

The quotidian form of gastric crisis is also likely to give rise to error, for here attacks are much milder than in the other forms, and the symptoms usually cease with the act of vomiting. However, the attacks in gastric crises occur independently of ingestion and character of food; there is no local condition of the stomach to explain the symptoms; the symptoms characteristic of ulcer—viz.: bulimia, distress and pressure after eating, sensitiveness to pressure of clothing, etc.—are absent between the attacks, and our patients are well nourished (for we have but to differentiate cases in the early stages of tabes). Ulcer of the stomach occurs almost exclusively in young persons, while locomotor ataxia seldom begins before the twenty-fifth year.

Treatment. — During the attacks of gastric crises Seymour Basch[41] would give hypodermic injections of morphine for the intense pain, except in mild cases. Oxalate of cerium has no influence whatever upon the pain, but is indicated to relieve nausea and vomiting. Nitrate of strychnine, in doses of $^1/_{30}$ grain subcutaneously, may sometimes give relief from pain. If the attacks are severe and protracted, especially if the patients are poorly nourished, all possible means must be employed to provide the patients with nourishment during an attack. While the symptoms are very acute, the patients should be restricted to fluid diet, beginning with teaspoonful doses, half-hourly or hourly. Black coffee, cognac, champagne, tea, lemonade, milk, koumiss, matzoon, also cloths saturated with ice-water placed over the mouth, cognac with cracked ice, etc., may be given. A few drops of cocaine solution placed upon the tongue frequently relieve thirst and vomiting. When pain is the most distressing symptom it is better to give the fluids hot rather than cold. In very prolonged and severe cases rectal alimentation will have to be resorted to. In those severe cases which do not even yield to morphine, and in which, in spite of rectal alimentation, the condition of the patient becomes a most serious one, subcutaneous injections of oil, as suggested by von Leube in extreme inanition, would be in place. If no organic disease of the stomach be present, convalescence is marked by a very strong appetite, and the patients frequently overeat, if care is not exercised in the diet during convalescence. During the first days of con-

[41] Med. Rec., Oct. 14, '99.

valescence, milk, whenever well borne, should constitute the main article of diet. The quantity of milk given at one time should not exceed 3 ounces. For those to whom milk as such is not acceptable, milk-soups, kefir, koumiss, matzoon, custards, milk-punch, desiccated milk, etc., are highly nutritious, and may be given with eggs, butter, sugar, cognac, zwieback, toast, crackers, rice, farina, hominy, corn-starch, arrow-root, and the like. Gradually the diet-list is increased, the starchy carbohydrates (those comparatively poor in cellulose), — *e.g.*, young carrots, cauliflower-tops, and young spinach, all in mashed form; mashed potatoes with milk, and besides these butter, good meat-broth with egg, finely minced or scraped beef, ham, white meat of chicken, young pigeon, sweetbread, calves' brains, boiled lean fish, jellies, apple-sauce, and other compots not rich in cellulose being allowed. Caviare, a sardel or two, ham, and some compots to stimulate the appetite are usually acceptable to the patient. If no organic disease of the digestive organs exists, rapid progress may be made to full diet. Forced feeding may accomplish much good if the patient be debilitated. Medicinal treatment during convalescence must be a symptomatic one. It is of paramount importance to raise and keep the general nutritive standard of these patients as high as possible.

In tabes G. M. Hammond[42] favors using large doses of strychnine. He has given hypodermically as much as $^3/_4$ grain at a dose without any toxic effect whatever, and with great benefit to the patient. It acts by improving the nutrition of the diseased portions of the cord.

C. L. Dana[43] thinks that in the first and second stages of tabes all persons giving a history of syphilis should receive a rigorous course of mercury and iodide. Mercury should be given first, the patient being kept at home and, as far as possible, in bed. The best way is to use corrosive sublimate hypodermically in doses of $^1/_{25}$ to $^1/_{20}$ grain twice daily, and this should be kept up for several weeks. The patient should also take 30 grains of iodide of potassium daily. After the mercurial course the doses of iodide of potassium should be rapidly increased up to about 350 grains a day. The person should be under treatment for about four weeks. He should then have a course of tonics for about two months, and receive lukewarm baths daily, followed by cool affusion in many cases. During this period counter-irritation should be made to the spine by means of a cautery or by small blisters. The patient should be kept as much as possible at rest during this period of three months. The diet should be moderate and simple, but nothing is gained by an exclusive meat or vegetable diet. There is nothing to be gained from prohibiting the customary and moderate use of either alcohol or tobacco. When there is no history of secondary or tertiary syphilis, and not the slightest sign of nervous syphilis, it is utterly useless to employ the mercury-and-iodide treatment. These degenerative cases should be treated as though they were getting prematurely old. They should be put at once on the bath and tonic regimen already described. Galvanization along the spine, or general faradization, together with the internal use of small doses of silver, sometimes acts admirably, when used in addition to the measures already mentioned. A still better plan is to put the patient to

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[42] Med. Rec., Oct. 28, '99.

[43] *Ibid.*

bed and give hypodermically rather large doses of strychnine and small doses of morphine. For example, at first $^1/_{60}$ grain at each dose, twice daily, should be given, and at the end of the third week it should be increased to $^1/_{20}$ grain each dose. These doses should be gradually reduced again until the treatment is stopped altogether at the end of six weeks. This course should be repeated three times a year. Strychnine should be used in the acute and rapidly progressing cases. It is much more easily used when guarded with morphine. Hot baths are dangerous, and the best form of hydriatic treatment for tabes consists in daily lukewarm baths for ten minutes at a time, sometimes followed by cool affusion. It is better for the patients to have such treatment at home. The method of treating locomotor ataxia devised by Fraenkel has proved to be of some use. In the third stage only symptomatic treatment is indicated.

Gränpner[44] has found the use of baths of value in the treatment of tabes dorsalis. Overexertion is to be avoided in the treatment of this disease by baths or exercises. "Functional cure," lasting a certain period, is possible in a certain class of cases. These cases include men and women between 30 and 40, with little objective disturbances of sensation, but with marked ataxy and acute attacks of pain.

Allen Starr[45] thinks it entirely justifiable to separate the spinal type of tabes from the optic type, and to consider them both degenerative diseases of the sensory neurons, but not the same disease. He recognizes also several types of the disease, and believes that success in treatment depends largely upon a proper recognition of these types, and treating them in a different manner.

Of the first importance in treatment is general nutrition of the individual. This is to be done by generous diet, moderate stimulation, country-life out-of-doors, moderate exercise just short of fatigue, general massage, and more particularly by warm baths long continued, but never attended by shocks or forcible douches, but accompanied by rubbing. Then antisyphilitic remedies are indicated, but only after the above object has been attained.

Systematic exercise by the method of Fraenkel is highly commended, but caution should be exercised against overdoing it. As to medication, codliver-oil, the glycerophosphates, arsenic, and all forms of tonics are best.

Wiener[46] advocates what he calls compensatory gymnastics in the treatment of tabes. Suspension and the forcible stretching and flexing of the body are not to be used. Severe cases are to be first treated in bed, both body and mind being strengthened through hydrotherapeutic procedures, diet, and general tonic treatment. Then the patients are taught to perform the various exercises while lying flat on the back; at first with their eyes open and then with the eyes shut. Each case will suggest to the experienced physician different movements. As soon as the patient is becoming adept in performing the exercises while lying down, he sits in a chair and learns to perform the exercises assigned to him. When these are well performed, the patient learns to stand and walk. At the same time he begins to perform difficult and complicated movements. It is advisable to change the exercises from time to time. The exercises are always to be under the control of a competent ob-

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[44] St. Petersburger med. Woch., No. 19, '99.
[45] Phila. Med. Jour., No. 22, '99.
[46] Med. Rec., July 22, '99.

server, who will at once control all errors and insist upon precision in all movements, and this observer and teacher should be the physician in charge of the case. The method of treatment is to help these patients to learn to co-ordinate properly, to lose their uncertainty, and regain confidence in themselves.

For the treatment of tabes dorsalis Jean Leclerc[47] states that an apparatus is in use at the Salpêtrière for temporarily lengthening the spine. Elongation by cervical traction usually gives good results; sometimes headache follows, and scapulo-dorsal traction is substituted. Elongation should be practiced every two days; if more frequently used, it is harmful. Average duration is ten minutes, but at first three minutes suffice. Contra-indications: Disease of the heart and vessels; aneurism, emphysema, cachexia, and laryngeal crises. In all stages of tabes, if none of the above complications are present, much improvement follows, "elongation" acting remarkably well in disorders of sensory nerves, both superficial and deep.

Improvement is to be looked for after fifteen or twenty elongations. If there be no change after forty applications it is useless to continue longer. Treatment is indicated while there is either superficial or deep sensory disturbance. Four months of treatment are to be followed by one or two of rest; another period of treatment is to follow.

Painful symptoms can thus be made to disappear wholly in some patients, the Argyll-Robertson pupil and Westphal's symptoms alone remaining.

MALARIA.

Diagnosis.—William Krauss[48] remarks that, while some authorities make the assertion that no fever refractory to quinine is malarial, and others go further and say that any fever not yielding to quinine is typhoid, two palpable errors are plain: (1) a malaria may be refractory to any amount of quinine, as all physicians can testify; (2) even if not malaria it is not necessarily typhoid.

The etiology of the protracted fevers of the South can be summed up as follows: (1) some are purely malarial, and quinine, in the proper dose and at the proper time, will influence the majority of these cases; (2) some are typhoid; (3) malaria may complicate typhoid during part of the time; (4) some are entirely different fevers, and these must be investigated.

Genner[49] gives the composition of a new stain for the plasmodium malariæ as follows:—

The equal parts of a 1.2- to 1.4-per-cent. watery solution of eosin and a 1-per-cent. watery solution of methylene-blue are well agitated and let stand for twenty-four hours, when the solution is to be filtered with double filter-paper. The residue should be allowed to dry for twenty-four hours on the paper. The residue is then washed and 50 cubic centimetres of water in a burette is allowed to drop through the residue slowly. This is dried in air and bottled. A 1-per-cent. solution of this should be made in methyl-alcohol, and the specimen stained for three minutes without being previously fixed. The neutrophiles are stained light blue; the basophiles a dark, intense blue; the eosinophiles red; the nucleated red blood-cells dark blue; and the plasmodia a light blue.

Etiology.—Bignami's experiments, at first negative, later positive, when the particular "genus" was allowed to bite

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[47] Revue de Thér., No. 7, '99.
[48] Memphis Lancet, Sept., '99.
[49] London Lancet, No. 3397, '99.

the subject are to Thin[50] very conclusive. Bignami's and Bastianelli's results allow them to conclude positively that "the 'genus' of mosquito, *Anopheles claviger*, may be made to bite a subject suffering from malarial fever, and then, if kept at the proper temperature (30° C.) for the requisite number of days to allow the sporozoites to be present in the salivary glands, if he be made to bite a healthy man, free from malarial fever, this man will develop malaria within a certain time, the parasite so conveyed through the mosquito having retained its specific type.

Koch,[51] while in Grosseto, a town situated in the Tuscan Maremma, examined 281 cases of malaria up to the end of July. In every instance the parasite of malaria was found in the blood. Apart from human blood the parasites occurred only in some species of mosquitoes, which were met with only in the summer. The mosquitoes convey the malarial germs from one human being to another; the infection is especially maintained and propagated by the relapsing cases, which continue all the year around and form the link between one fever-season and the next; so that the mosquitoes in the beginning of summer always find germs. A remedy which destroys the parasites was discovered long ago in cinchona-bark and quinine; it must be given not only during a fit, but for a very long time—from eight to nine months—so that relapses may be avoided. In seven cases parasites of malaria were discovered in insects, especially in *Anopheles maculipennis*. In many dwellings, however, where patients had contracted malaria *Anopheles* was not present, but another insect, *Culex pipiens*, was hardly ever absent. The so-called æstivo-autumnal fevers are identical with tropical malaria.

T. B. Futcher[52] states that, from his observations in India, Ross found that all the more common forms of mosquitoes belong to the two genera of the zoölogical family of the *Culicides*, namely: genus *Culex* and genus *Anopheles*. The adults of the *Culex* have certain characteristics which readily distinguish them. Their eggs are laid on the surface of artificial collections of water, such as pots and tubs of water, cisterns, wells, and drains. The larvæ, so far as he has observed, float head downward when resting on the surface of the water. The genus *Culex* is extremely common in towns and villages. Mosquitoes of the genus *Anopheles* differ morphologically from those of the genus *Culex*, and are most common in the rural regions. Their larvæ are scarcely ever to be found in artificial collections of water, but only in natural ponds and puddles. Consequently they are much less common in towns and more frequent in the country. Their larvæ do not float head downward, as in the case with the *Culex*, but float flat on the surface of the water like sticks, an important difference—due to the absence of the breathing-tube in *Anopheles*—which enables one to distinguish the larvæ at once, and consequently the pools in which they breed. The interesting point is that up to the present only mosquitoes belonging to the genus *Anopheles* have been found to contain malarial parasites, and to possess the power of transmitting the disease. Ross states that if future experiments show that malaria is confined to the genus *Anopheles* the task will be much simplified, and there will be a chance of exterminating the whole genus, at least in a given locality. This

[50] Phila. Med. Jour., Aug. 12, '99.
[51] Deut. med. Woch.; Lancet, Oct. 14, '99.
[52] Amer. Jour. Med. Sci., Sept., '99.

will be done by attacking the larvæ, which, as already stated, can be readily recognized in the breeding-pools. Ross is of the opinion, from the evidence at hand, that there are good prospects of annihilating the *Anopheles claviger*, and, consequently, also malarial fever, in a given locality, by removing their natural breeding-pools and preventing their formation.

Complications. — Larned[53] states that in some localities malarial fever should be given a prominent position in the etiology of chronic, as well as of acute, nephritis. In all cases of malarial fever the urine should be closely watched. A blood-examination should be made in all cases of nephritis occurring in those who have visited or lived in a malarial district, as it often happens that the severe grade of nephritis resulting may mask entirely the clinical picture of malarial fever.

Prognosis.—J. M. Espada[54] states that paludal infection in Cuba is extremely severe. Malaria attacks all of the population. It continues for an indefinite time, aggravates all associated disorders, and one attack predisposes to another. The victim of paludism has his powers of resistance lowered, and while the immediate mortality is comparatively small, yet to it must be added a large number of deaths which are to be attributed to malarial cachexia and intercurrent complications.

Treatment.—Lomonaco and Panichi,[55] from microscopical observation of the effects of quinine on the blood of malarial patients (quartan type) who have not been treated with quinine, have reached the following conclusions: As the red corpuscle is necessary for the life of the parasite, the action of quinine can be very simply explained, namely: quinine, by driving the parasite out of its element, places it under conditions unfavorable and destructive to its development. Therefore quinine should not be given in the febrile stage of the disease, but during the non-febrile intervals, when the early forms of the parasite are present in the blood in greatest number.

William B. Burns[56] declares that in malaria quinine should be administered in from 3- to 5-grain doses every three hours for from twenty-four to forty-eight hours, beginning at the commencement of the decline of the fever. In malarial cachexia quinine should be administered in 3- to 5-grain doses three times daily, preferably on a full stomach. Relapses may be prevented by 10-grain doses on the fifth, sixth, and seventh days, given at bed-time.

Dock[57] deprecates the exhibition of such large doses of quinine as were at one time believed to be necessary; even in the tropics 30 to 45 grains of quinine *per diem* are sufficient, while in the northern half of the United States the milder intermittents are often checked by a single dose of 5 grains, more certainly with 10. In general, however, 15 grains may be looked on as an average dose in such cases. In the severe and more obstinate æstivo-autumnal forms 20 grains a day may be taken as the normal dose. It is best to administer that amount at one dose, or within a time not longer than two hours. The results are more certain and more satisfactory in every respect when the quinine is given in the decline of the paroxysm. In double or still more complex infections it will be necessary to follow each paroxysm by the remedy. After the

[53] Johns Hopkins Hosp. Bull., July, '99.
[54] Jour. de Hygiene, June 22, '99.
[55] Centralb. f. d. med. Wissen., Aug. 19, '99.
[56] Med. News, Oct. 21, '99.
[57] Jour. Amer. Med. Assoc., July 29, '99.

temperature falls quinine is no longer necessary as a specific, but may be given for its tonic effect,—say, 2 grains, *t.d.*, with or without iron.

From a study of the effect of ergot in chronic malaria A. Jacobi[58] reaches the following conclusions:—

1. There are cases of chronic intermittent fevers with large tumefaction of the spleen that—after having resisted the action of quinine, arsenic, methylene-blue, eucalyptus, and piperine—are benefited by ergot.

2. When enlargement of the spleen is not old and not firmly established, the contracting effect of ergot is noticed within a reasonable time.

3. The attacks will disappear before that diminution in the size of the spleen is very marked.

4. Though temperatures, after the employment of ergot, remain irregular and now and then somewhat elevated, chills, as a rule, are not noticed with this elevation.

5. Plasmodia do not seem to disappear from the blood so readily as they do after quinine when the latter is effective. But, even while some are still present, the attacks being more or less under control, the patient will feel better.

6. Complicating local pain requires additional treatment with ice, cold douches, or heat. Chronic hyperplasia demands iodide of potassium or iodide of iron. Digestive disorders may indicate, as they often do when quinine is expected to act before the employment of ergot, an emetic, a purgative, or stomachics.

7. An experience extending over forty years, in which ergot has been used in many instances, justifies this assertion, at least: that there are many cases of chronic malaria, apparently intractable, that will get well with ergot.

8. There are cases occasionally in which the return of elevations of temperature after the successful use of ergot makes the combination of ergot and quinine or ergot and arsenic advisable, though quinine and arsenic were not successful previously.

9. Ergot, like quinine, probably by its sudden contracting effect on the spleen and the forcing of large quantities of plasmodia-laden blood into the circulation, in chronic malaria when hydræmia and spleen tumor are excessive, is capable of bringing on the very first attack of chills and fever.

10. Recent cases of malaria have got better or were improved under the extensive use of ergot, but many resisted a long time. That is why acute cases should rather be treated with quinine.

A. O. Fitzgerald[59] has treated twenty-six cases of malarial fever of different grades by inunctions with beech-wood creasote. All were obstinate cases and resisted the treatment with quinine, arsenic, etc. The treatment seemed to be especially indicated where there was much vomiting and restlessness. Fifteen to 20 minims of the pure beech-wood creasote are to be used for a child of 1 year, and 30 to 60 minims for an adult. It is mixed with an equal quantity of olive-oil and thoroughly rubbed into the chest, abdomen, and axillæ.

[58] St. Louis Med. Era., Oct., '99.

[59] Interstate Med. Jour., Aug., '99.

ABDOMEN, GUNSHOT WOUNDS OF.

In gunshot wounds of the abdomen, perforation with very little extravasation may not cause urgent symptoms. On the other hand, severe contusion of the abdominal wall may be followed by great collapse. Every case must be left to the judgment of the surgeon. In most cases of perforating wound when operation is decided on it is a good plan to make the incision through the point of entrance, and when necessary to apply silk-thread retractors. Charred tissue must be excised, and the part injured secured with fingers or forceps and drawn out, surrounded by gauze or sponges, and dealt with by suture or excision as the case requires. When flushing is employed for the removal of foreign matter or extravasated fluid, some clean water left within the cavity often has a very beneficial effect. In hepatic injury often the chief difficulty is hæmorrhage. This, however, can be stopped by pressure with or without perchloride of iron or suture. Wounds of the intestine can be treated expeditiously by the aid of some sort of contrivance; but, of all the mechanical instruments introduced, Murphy's button is the best. J. Ward Cousins (Brit. Med. Jour., Oct. 21, '99).

ABSCESSES, INTRA-ABDOMINAL.

Treatment.—In dealing with intra-abdominal abscesses, directly the mass of adherent bowel around the pus is exposed, on opening the peritoneal cavity over it, it is very carefully isolated by packing around it with iodoform gauze or sponges. Then one should look for a spot on the surface of the mass where the adhesions can be broken through between the coils, and the interior reached; one is to work gently here with the end of a director and the finger-tip. Presently a little, usually offensive, pus escapes, and is quickly caught on a sponge. The opening is enlarged by the finger, the pus caught on the sponges as it wells up, and then when it ceases to flow the cavity is plugged with a strand of iodoform gauze so that no pus can escape. The surrounding mass of gauze, or the sponges, are then removed, and the neighboring coils examined, by inspection and gentle sponging, to see if any pus has found its way among them. In personal cases the gauze packing has always prevented this. If a little pus has escaped among the coils of bowel, it should be sponged up; if anything like free escape of pus into the general peritoneal cavity has occurred, it should be flushed out with boiled saline solution. A fresh strand of gauze is then packed around the mass, and the end brought out of the incision in the abdominal wall. The piece of gauze within the abscess-cavity is then replaced by a large glass drainage-tube, in which lies a strand of iodoform gauze to act by capillary attraction. Usually an anæsthetic is required for a few minutes when the gauze is removed from around the suppurating mass: forty-eight hours after the operation. Charles A. Morton (Bristol Med.-Chir. Jour., Sept., '99).

ALCOHOLISM, ACUTE.

A very satisfactory hypnotic in acute alcoholism is a mixture of bromide of potassium and chloral in equal parts. This should be given in several small doses, the effect of each dose being carefully noted. There is, however, one harmless remedy that will produce sleep in a few minutes, even when the patient is suffering with the wildest delirium.

That remedy is apomorphine. Just enough is injected subcutaneously to produce slight nausea, but not enough to cause vomiting. One-thirtieth of a grain is the average quantity required, but individual susceptibility varies considerably. In a few minutes after administering the remedy perspiration appears and the patient voluntarily lies down, when a sound and restful sleep immediately follows. This sleep lasts at least an hour or two, and, if other sedatives are previously given, it will last six or eight hours. It is of special value in all forms of mania, regardless of the cause. It may also be given in full emetic doses in many cases of alcoholism with marked benefit. It seems to frequently act as almost a specific in relieving the alcoholic craving. Charles J. Douglas (New York Med. Jour., Oct. 28, '99).

ANÆSTHESIA, PREVENTION OF SICKNESS AFTER.

Some of the chief points to be attended to in the avoidance of after-sickness are (1) to use as little of the anæsthetic as possible consistent with perfect anæsthesia; (2) to wash out the stomach at the close of the operation when much mucus has been swallowed; (3) in long operations to substitute chloroform for ether after three-quarters of an hour; (4) to move the patient about as little as possible during and after operation; (5) to place him on his right side in bed with the head only slightly raised; (6) to give nothing but hot, thin liquids in small quantity for at least eight hours after; and (7) not to alter the temperature of the room for some hours. With proper attention to these points one-third of the patients operated on will be free from after-sickness, and for short operations the proportions will be much higher still. J. Blumfeld (Lancet, Sept. 23, '99).

BRONCHITIS, SUBACUTE.

Treatment.—At the commencement of an attack of subacute bronchitis good results will generally be found to follow from (1) the administration of a sudorific; (2) the administration of an indirect alkali, such as citrate of potash or acetate of soda, in 20- to 30-grain doses every three or four hours, combined with a small dose of antimony if circumstances permit; (3) the application of a mustard-leaf if the chest feel "raw"; and (4) a caffeine pill, of 5 grains, at night if there be any bronchial spasm. In the second stage, if there be a large amount of secretion, accompanied with not more cough than is sufficient to get rid of it, no drug probably does so much good as ammonium chloride, in 20-grain doses every four hours. Sometimes a large amount of secretion coming up freely is accompanied by a troublesome, tickling cough, and in such a case phosphate of codeine, in $^1/_4$- to $^1/_3$-grain doses, every four hours, will be most effectual. If the amount of expectoration is moderate, drugs are needed which will act as astringents, diminish and lessen total secretion from the mucous membrane, while preserving the ratio of its constituents one to the other. Tincture of Virginian prune, in $^1/_2$- to 1-drachm doses, is useful. Tincture of hydrastis is a more effectual astringent, in $^1/_2$- to 1-drachm doses, and may often with advantage be combined with the former drug. Yerba santa is extremely efficacious in the treatment of the second stage of bronchitis; it seems to diminish the watery and mucous constituents of the phlegm proportionately, so that this does not become more difficult of expectoration. The dose is 15 to 45 min-

ims of the liquid extract. It forms a somewhat muddy mixture with water, but the addition of ammonium carbonate or bicarbonate of soda makes it clearer. Bronchial spasm in the course of the second stage of bronchitis is best treated with caffeine or iodide of potassium. F. H. Edgeworth (Bristol Med.-Chir. Jour., Sept., '99).

CANCER OF THE STOMACH.

Diagnosis. — Exploratory laparotomy for diagnosis in gastric cancer is warmly recommended in all cases of gastric disease associated with (1) rapid emaciation; (2) absence of free HCl; (3) reduction of proteid digestion under 30 per cent.; and (4) presence of lactic acid by Uffelmann's test or (5) of numerous long baseball-bat-shaped Oppler-Boas bacilli. If all of the above signs and symptoms are present in any case, even of short standing and recent beginning of the disease, and no improvement follows three weeks of appropriate treatment, one seems justified in making the diagnosis of carcinoma of the stomach even in the absence of tumor, and urging an exploratory laparotomy. There are in personal opinion only two methods of making a possible early diagnosis of gastric carcinoma. One is curetting of the stomach, and examination of the cellular *detritus* and fragments of neoplasm, and seeking for evidence of mitosis, which should always suggest the possibility of a neoplasm; and the second method is exploratory laparotomy following the indications just announced. For this kind of curetting, a soft stomach-tube suffices, provided it has a lower and a lateral aperture, the edges of which scrape away the tiny elevations of gastric mucosa, when the tube is moved in and out of the mouth. The procedure should be carried out in the morning before breakfast, when the stomach is empty. This method of obtaining specimens from the gastric mucosa during life is free from danger. In many cases of chronic gastritis, achylia gastrica, and carcinoma, tissue-fragments are found in the lavage-water without especially making an effort to loosen them, by moving the tube along the gastric walls. John C. Hemmeter (Med. Rec., Oct. 21, '99).

Treatment.—The first indication for operation is a strong suspicion that malignant disease is present. Even then operation is inadvisable in marked cachexia (other than hæmorrhagic) and such diseases of other organs as will compromise success: diseases of the heart, lungs, kidneys. The local lesion in patients of excellent general condition may be conspicuously inoperable—out of all proportion to the functional disturbances. On the other hand, an excessive general manifestation—an extreme cachexia—may attend a local lesion of trivial extent. Local signs justifying resections are circumscribed tumors without contiguous or remote complications. Infiltrating masses not sharply defined, which approach contiguous viscera so that they must be closely shaved, do not justify radical measures. When complete extirpation of the disease requires complete extirpation af the stomach, there is no local contra-indication if the operation is technically possible. Palliative operations are impracticable when the disease is so wide-spread that there is no unaffected gastric surface for anastomosis with the jejunum. It is exceptional to find a stricture of the pylorus, however, in the widely-infiltrating tumors. Operations are, therefore, demanded rather for radical cure than for palliation. When performed at the earliest moment, upon patients whose general

health is but little impaired and in whom the disease itself is situated favorably for wide and thorough dissection, resection of the stomach, whether partial or complete, will present a very different outlook from what it does to-day. Maurice H. Richardson (Boston Med. and Surg. Jour., Sept. 28, '99).

COLON, CONGENITAL IDIOPATHIC DILATATION OF.

A very characteristic group of symptoms is present in congenital idiopathic dilatation of the colon. Chief among them and the first to appear are two, viz.: constipation and abdominal distension. In twenty-two of the twenty-four cases published one or both of these were witnessed within three months, and nearly always within a few days after birth. Generally it is noticed that within a few days after birth the child tends to be much constipated. In a few cases several weeks or even as long as three months appear to have elapsed before the trouble with the bowels began. In one patient there was never constipation. In nearly half the cases constipation was the first symptom noticed, although in most of these distension of the abdomen developed very soon after. In almost all of the remaining cases the development of constipation and of distension seems to have been simultaneous. The relief of constipation by enemata or purgatives was, in most instances, attended by a decided diminution in the size of the abdomen. Particularly in the cases which have survived the first year or two of life there has been a decided tendency to repeated attacks, or rather exacerbations. In these, constipation, though troublesome and constantly growing more so, became more extreme and the abdomen more extended. With rare exceptions it has been only in such attacks that pain or vomiting has been a prominent feature. As a rule, pain and tenderness have been slight or absent, and vomiting only occasional. As to the character of the stools, it seems only exceptional that they have become sybalous. Not infrequently there have been attacks of diarrhœa, and in a number of instances severe diarrhœa has been a terminal symptom. The general health has always suffered sooner or later. Dyspnœa is liable to be produced by the pressure against the lungs. The treatment can only be (1) hygienic and medicinal and (2) operative. Carefully performed in cases without diarrhœa or tenderness, massage seems indicated. Electricity may also be used. Means must be employed to empty the bowels either by purgatives or enemata. The use of the rectal tube to remove gas has sometimes been a great comfort to the patient. In any severe case tending to grow worse seasonable early operation of some sort is to be advised. An artificial anus was made by Halsted in Osler's case, and the child recovered. J. P. C. Griffith (Amer. Jour. Med. Sci., Sept., '99).

DIABETES MELLITUS.

Treatment.—In diabetes mellitus the patient should be allowed to eat only such foods as can be digested by the stomach, thus giving the duodenum rest. Intestinal germicides in the order given —creasote, sulphocarbolates of zinc and soda, hyposulphite of soda, eucalyptol, menthol, oil of cinnamon and sulphid of calcium, salol, betanaphthol, carbonate of guaiacol—are to be used. To control reflex irritation, $^1/_{15}$ to $^1/_{10}$ grain of morphine may be used three times daily, or aqua chloroformi, a dessertspoonful three times a day. One-sixtieth to $^1/_{40}$ grain of strychnine nitrate is to be given

three times a day, or an equivalent amount of nux vomica. As a tonic, either the bitter tonics or the phosphates of lime and soda, or the wine of the phosphoglycerate of lime (Chapoteaut), are of value. The ferruginous preparations and the codliver-oils should be excluded. To render the chyme less acid, from 20 to 30 grains of potassium bicarbonate, largely diluted in water, may be given just after eating. Another combination of remedies recently used with apparent benefit is as follows:—

℞ Creasote, $^1/_3$ drop.
Tinct. nucis vomicæ, 10 drops.
Saw palmetto, 1 drachm.

The environments of the patient should be hygienic, with plenty of fresh air, also baths and massage of the skin every other day, and no mental or physical work. J. M. Allen (Jour. Amer. Med. Assoc., Oct. 28, '99).

DIGITALIS IN HEART DISEASE.

In whatever form administered, digitalis is absorbed slowly and is slowly eliminated. In consequence of this fact, chronic or acute intoxication may rapidly supervene upon the exhibition of even small doses at short intervals. It is very often used in the conditions of failing compensation in heart disease in such a way as to defeat the object had in view and to result in more harm than good. Clinically, one is continually meeting with cases in which, digitalis having been given continuously for a greater or less period, all the evidence of failing compensation deepens and where death ensues suddenly upon some slight physical exertion. In other words, the patient is brought into a condition of chronic digitalis poisoning, in which there is greatly-increased frequency of pulse-rate, together with lowered arterial pressure, increasing dropsy, and dyspnœa. For such results as these the drug should not be blamed, but rather the prescriber. As a tonic dose for continued use, 1 grain of the powdered leaves, or its equivalent of any of the official preparations, administered once in twelve hours, will prove efficacious. This dose can be continued for months and years with nothing but increasing benefit, and without any danger of inducing any of the evidences of saturation. Some cases may require a slightly larger dose than the above, though a smaller dose will seldom suffice. Digitalis is seldom required in chronic valvular disease during the period of complete compensation. When the stage of broken compensation is present, it is urgently demanded, in all forms and combinations of lesions, in proportion to the degree of cardiac weakening. When given in doses of more than 2 or 3 grains of the powdered leaves, or the equivalent thereof, in the twenty-four hours, symptoms of saturation are to be anxiously watched for when from 30 to 40 grains have been administered, and the drug discontinued for a few days or the dose reduced as soon as they appear. The drug is thereafter to be continued in tonic doses. Tonic doses of digitalis are always useful in the treatment of weak, neurotic hearts. W. H. Washburn (Merck's Archives, Oct., '99).

EUROPHEN.

Europhen has proved of all the iodine compounds the least irritating, the least likely to cause iodism, and most efficient in destroying certain infectious microorganisms and stimulating the absorption of the morbid products of their attacks. As a means of restoring diseased mucous membranes to the normal state

it has no equal. William F. Waugh (Merck's Archives, Oct., '99).

FATTY LIVER IN CHILDREN.

The autopsy reports at the New York Foundling Hospital have been studied with special reference to the condition of the liver. These consisted of some five hundred cases, and showed that cirrhosis of the liver is very rare in infancy, as is also the condition of waxy liver. A careful study of fatty livers gives, in contradistinction to the ordinary statements given in text-books, the following conclusions:—

(1) Fatty livers occur very frequently in the infants and children that come to autopsy at the Foundling Hospital—in about 41 per cent. of all cases; (2) the condition of nutrition of the child apparently has no connection with the fatty condition of the liver, the condition of nourishment in the cases having fatty livers averaging about the same as in the whole number of cases; (3) fatty livers occur rarely in the chronic wasting diseases, such as marasmus, malnutrition, or rachitis and syphilis, unless such condition be complicated by an acute disease; (4) with tuberculosis fatty livers occur not more often than with other conditions; (5) fatty livers occur most often with acute meningitis, gastro-intestinal disorders, measles, and diphtheria. R. G. Freeman (Boston Med. and Surg. Jour., Oct. 19, '99).

FIBROMYOMATA.

1. The surgical treatment of fibromyomata should consist in their ablation.

2. The bilateral extirpation of the adnexa by laparotomy has been generally abandoned, and is indicated only as a complement to ovariotomy when uterine fibromata exist without causing serious symptoms.

3. Fibromyomata should be ablated by the vagina when operation by that route is easy.

4. Laparotomy is preferable when the vaginal operation seems to present real difficulties.

5. Vaginal myomectomy and hysterectomy should be performed by simple or V-shaped anterior median section of the uterus.

6. Large interstitial tumors are scooped out by the cutting-tube (tube tranchant) and extirpated by morcellation in "lozenges."

7. The ablation of large pedunculated fibromata by laparotomy presents its special indications. Abdominal myomectomy is only rarely indicated.

8. The operation of choice for multiple and large interstitial fibromata is total abdominal hysterectomy by subserous decortication of the inferior segment of the uterus, with closure of the pelvic peritoneum. E. Doyen (Amer. Gynæc. and Obstet. Jour., Oct., '99).

GANGRENE OF THE LUNG.

In all cases of gangrene of the lung which are progressive and not absolutely diffuse, operation should be performed. In the absence of pleuritic adhesions the pleural cavity is shut off by gauze packing or by suturing. When the cavity has been thoroughly opened and drained, it should be cleansed daily by irrigation and afterward tightly packed with iodoform gauze. A. H. Levings (New York Med. Jour., Oct. 14, '99).

GONORRHŒA IN THE FEMALE.

In gonorrhœa of the external genitals in the female local application alone should be employed. Thiol, which is one of the most valuable drugs, is not pain-

ful, and when care is exercised does not stain the clothing. When Skene's ducts are involved, a filiform bougie of the smallest size is used, enough cotton being used to cover it, and then it is dipped in thiol, full strength, and passed into the mouth of the duct. In treating other points a piece of absorbent cotton is saturated with thiol and laid over the whole vulva, which is protected by cotton and a napkin. A. B. Tucker (Amer. Gynæc. and Obstet. Jour., June, '99).

HÆMOPTYSIS.

Ergot is useless in hæmoptysis. The patient should be put in bed, given remedies to lessen the cough; digitalis in cases with rapid, feeble heart; and, at critical moments, ligation of the extremities and infusion of saline solution. The ice-bag should be placed on the heart rather than on the lung. Morphine may be used to quiet the cough if necessary. Fraenkel (Munch. med. Woch., June 20, '99).

HEADACHE IN RELATION TO AFFECTIONS OF THE EYE.

The following conclusions may be regarded as established by clinical experience:—

1. Abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache.

2. Abnormalities of vision may be the unsuspected cause, and therefore the absence of symptoms obviously referable to the eyes does not exclude them as an etiological factor in headache, insomnia, vertigo, petit chorea in children, and certain stomachic derangements.

3. The recent or sudden development of symptoms, after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms.

4. The participation of the eyes as an etiological factor in headache can be positively excluded only in the absence of ocular disease or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance.

5. For the relief of reflex symptoms accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cycloplegic.

6. Immediate relief by these corrections in a large group of patients is not to be expected, since the pain is frequently due to associated pathological conditions of the fundus oculi, and these require time for cure. S. D. Risley (Jour. Amer. Med. Assoc., Sept. 23, '99).

HEART DISEASE AND MARRIAGE.

Personal views regarding heart disease from an obstetrical point of view are as follow:—

1. A woman having a heart-lesion which is compensated should not be prevented from marrying.

2. Abortion should not be induced in a woman with heart disease unless very serious symptoms are present.

3. Premature labor should seldom or never be induced on account of heart disease.

4. Mitral stenosis is the most serious heart-lesion during pregnancy and labor, aortic stenosis comes next, then probably aortic incompetency. Mitral insufficiency is the least serious lesion.

5. Treatment during pregnancy consists of administering the following according to indications: strychnine, digitalis (or strophanthus), cathartics, nitrite of amyl, nitroglycerin, and also regulation of the diet.

6. Treatment during labor consists in keeping up the action of digitalis (or strophanthus), especially during first stage, giving strychnine and stimulants if required, and chloroform. As soon as the first stage is completed delivery should be accomplished with the forceps.

7. The patient is to be carefully watched during the third stage (the most dangerous time) and for days after. Adam H. Wright (Amer. Med. Quart., Sept., '99).

HEROIN.

Heroin is a very valuable therapeutic agent. It principally allays cough and eases respiration, but it has also general analgesic properties, which render it of benefit in most painful affections. Except slight dizziness and occasionally dryness in the throat, which was personally found but rarely, no unpleasant symptoms even from a prolonged use of heroin have been seen. Max Einhorn (Phila. Med. Jour., Oct. 28, '99).

INTERACTION BETWEEN THE OVARIES AND MAMMARY GLANDS.

In summing up 17 cases in which oöphorectomy has been done for recurrent cancer of the breast, it is discovered: 1. That the ovaries removed have usually seemed healthy. 2. Non-success seems to be connected with (*a*) presence of much cancer; (*b*) affection of the bones and viscera; (*c*) long cessation of menstruation, or rather with the ovarian changes indicated by these; and (*d*) cachexia. These do not seem to account for all the failures. 3. The most successful cases were those of from four to seven years' standing prior to the oöphorectomy. 4. The extremes of age of the patients were 33 and 49 years. 5. There is but one case recorded in which improvement followed operation performed after the menopause. 6. Growths starting from mammary epithelium are not uniformly affected by oöphorectomy; those in the skin and subcutaneous tissue are most benefited. Next in order are infected glands and growths in the breast itself. 7. The duration of the action cannot be determined, as none of the cases have been of long-enough standing. 8. In the mode of disappearance, it has been shown that diminished vascularity of the cancer-nodules, coupled with loss of pain, are the earliest manifestations of oöphorectomy. In examining the shrinking nodules it has been shown that they undergo rapid fatty degeneration. 9. The effect of oöphorectomy upon uterine cancer is very slight. Stanley Boyd (Brit. Med. Jour., Sept. 30, '99).

IODIPIN.

The conclusions regarding iodipin, which is an organic combination of iodine and sesame-oil, used hypodermically in tertiary syphilis, are as follow:—

1. Iodipin has a specific action in tertiary syphilis. 2. The influence lasts longer than in the case of the ordinary iodine compounds. 3. There is no loss of iodine. 4. Iodism does not occur. 5. Absolute dosage is possible. 6. The subcutaneous method permits of the use of iodine in persons who cannot or will not take iodine in the ordinary forms (insane or unconscious persons; surgical cases). 7. The body may be placed under a prolonged iodine influence (weeks or months) by an injection-cure lasting only a few days. A 25-per-cent. solution of iodipin (Merck) is personally employed. V. Klingmuller (Berl. klin. Woch., June 19, '99).

LIVER, FLOATING.

Treatment.—The treatment of floating liver resembles, on the whole, that

of enteroptosis, and especially that of floating kidney. Here, also, the chief measure is the application of well-fitting abdominal bandages, which support the lower half of the abdomen in an upward direction and increase the tension of the abdominal walls. A special pad for pressing the liver still farther back is of as little service here as in floating kidney. General massage and hydrotherapeutic measures, which have for their aim the strengthening of the organism, are of high value. In the front rank of all these methods is an appropriate diet. The patient should be directed to take food as other healthy persons, and a little more. If besides the ordinary diet an additional quarter of a pound of butter is ordered daily, much will be accomplished by this means alone, and most of the patients will show an increase in weight. Gymnastic exercises in the open air, and, in cases with a tendency to constipation, special exercises for the abdominal muscles, are likewise of value. Operative procedures are personally opposed. Max Einhorn (Clin. Jour., Oct. 4, '99).

MAMMARY TUMORS.

Diagnosis.—The location of a tumor of the mammary gland is of great significance from a diagnostic stand-point. Malignant growths are most frequently found in the upper and outer quadrant, lower or axillary quadrant, and behind the nipple. In the last situation they draw upon and cause retraction of the nipple, which is found in 52 per cent. of all cases. Benign growths, *per contra*, affect the upper and inner quadrant or sternal half of the gland. While retraction of the nipple is occasionally seen in benign growths (3 to 6 per cent.), it is accidental, and usually of congenital origin. Benign tumors are movable from beginning to end. They are distinctly capsulated, and slip under the finger like a marble under a cloth. Malignant neoplasms are fixed from their inception, are not capsulated, and very soon become attached to the surrounding structures. The superimposed skin is usually dimpled or puckered, soon becomes more or less discolored, and shows oftentimes enlarged veins beneath. In benign affections the skin is normal. Pain, so generally thought to be present and of distinctive character in malignant disease, is as conspicuously absent early in the case as it is in benign affections. Enlarged axillary glands, while not, as a rule, an early symptom, practically settle the diagnosis in favor of carcinoma. Both sarcoma and benign growths cause axillary enlargement in 3 per cent. of such cases, but it is "irritative" in character, and not due to infection. A competent microscopist should be present at the operation, with proper apparatus, as he can in fifteen minutes give a reliable opinion as to the nature of the growth, if a small portion is given him from near its centre. If he reports malignancy, a complete operation must be done, whereas in benign neoplasms only the tumor and its capsule need be removed. Scarcely less to be relied upon is a clinical diagnosis based upon the history of the case, the macroscopical appearance of the tumor, its color, consistency, relation to surrounding structures, and, above all, the resistance it offers to the knife when sections are made through it. W. L. Rodman (Phila. Med. Jour., Oct. 28, '99).

MASTOID OPERATION ON CHRONIC OTORRHŒA.

The opening of the mastoid is indicated in the course of chronic otorrhœa under three distinct circumstances:—

1. When the object is to give vent to pus in cases of purulent retention.

2. For the circumvention of conditions indicating the threatening or the commencing of intracranial infection of aural origin.

3. For the cure of otorrhœa after it has been recognized that this has proved intractable to different methods of local treatment applied through the auditory meatus, including the extraction of the ossicles and the curetting of granulations accessible through this passage.

The operation is only urgent in the first two cases. In all cases of chronic otorrhœa the opening in the bone should extend from the antrum to the attic, or from the attic to the antrum, and be followed by curetting and complete disinfection of the whole of the cavities of the middle ear. In the case of threatening intracranial complications, the osseous breach ought to extend from the first to the suspected region of the dura mater; this membrane, however, not to be opened until a second operation, after a delay of armed expectation of as short duration as possible, if the threatening signs in question are seen to persist, or, still more, to increase. Luc (Jour. of Laryng., Oct., '99).

MIDDLE-EAR SUPPURATION.

In using acetanilid for suppuration of the middle ear, hydrogen peroxide is employed as a temporary cleansing and antiseptic measure to prepare the suppurating surface for the powder. The details of treatment are as follow:—

First, all the discharge that can be easily reached is removed by an applicator with dry absorbent cotton twisted on its end. The cotton is then saturated with peroxide of hydrogen, applied to the auditory canal and tympanum, and, after waiting a minute for it to act, all resulting *débris* and moisture is carefully wiped out. Sometimes one may have the patient tilt the head to the opposite side, and fill the middle ear and canal with the hydrogen preparation, and after a minute let it run out and carefully wipe the parts dry. Only the most finely powdered acetanilid is to be used, and but little should be applied to the middle ear and canal in acute suppuration, and in most cases of chronic suppuration. In some obstinate cases of the latter prompt and permanent checking of the discharge and a desirable condition of the mucous lining of the tympanum is brought about by packing the middle ear and inner fourth of the canal with this drug; but this procedure is unsafe unless the patient is seen every day and carefully watched to guard against retained discharge from caking of the powder. An insufflator may be devised from a short piece of glass tubing and a longer piece of rubber tubing of the same size; or the ordinary powder-blowers for sale by instrument-dealers serve the purpose well. George F. Libby (Med. News, Oct. 14, '99).

MURMURS, VENOUS.

Venous murmurs should never be mistaken for those originating in the heart. They are frequent, mostly about the chest and neck, and generally found in anæmic adults, less so in anæmic children, still less in infants, and never, it appears, in babies suffering from atrophy. The jugular vein is a frequent seat of murmur, particularly when the bulbus v. jugularis is large compared with the size of the vein; in these cases the murmur is explained by the formation of a vortex. The v. anonymæ also exhibit murmurs, which are combined with those of the jugular, are heard on both sides of the sternum, and are not

isochronous with the sounds of the heart. When such murmurs are complicated with those of the apparently-normal heart in adults, it is mostly safe to claim the latter as functional and when in children, and particularly in small children, as organic, for the number of very young children that develop other than organic murmurs is small. That is why, while venous murmurs are frequent in pernicious anæmia, leucocythæmia, scurvy, and hæmophilia of the adult, even when cardiac murmurs are still absent or not marked, they are often missed in those of the young child. A. Jacobi (Amer. Med. Quart., Sept., '99).

NOSOPHEN AND ANTINOSIN.

Nosophen is a tetra-iodophenolphthalein, obtained by the action of iodine on solutions of phenolphthalein. Antinosin is the sodium salt of nosophen and is soluble in water and alcohol, is dark blue in color, and makes a purple or red solution. Both are antiseptics. The former is used by dusting, and the latter in 1- to 3-per-cent. aqueous solution. After enucleations, if nosophen is dusted in the orbit, healing takes place rapidly and no infection follows. In all ulcers of the cornea if nosophen is used by dusting, or applications with powder-blower, or tamponing with cotton on tooth-pick, in connection with antinosin, from 1 to 2 per cent., and atropine, $^1/_2$ to 1 per cent., healing will usually take place rapidly. If, however, the ulcer has a tendency to spread, curetting, medicinal caustics, or galvanocautery may be necessary first; but if the above treatment of daily applications of nosophen and hourly of antinosin, or the latter alone, be commenced early, the caustics will be seldom needed. After the ulcer is healed, there is frequently a very irritable scar left, accompanied by some congestion, and photophobia, and in some of these cases a few applications of nosophen is of great benefit. The use of nosophen to promote absorption of corneal opacities is of value. The massage with which the powders and ointments are accompanied is perhaps the most important part of the stimulating treatment and should always be used. The ointment of nosophen, 5 per cent., in unguentum petrolatum has been of service in treating eczema of face and lids and in blepharitis marginalis. In aural work, nosophen, usually mixed with equal parts of powdered boric acid, has given good results in chronic suppurative inflammation of the middle ear. The ear is cleansed and the powder blown in. Nosophen gauze placed in the external meatus to promote drainage can be used after the powder is blown in or alone. The gauze can be freshly sterilized by dry heat, as it takes over 220° C. to decompose the nosophen. In acute cases of suppuration and in chronic ones, when irrigation is desired, antinosin solutions can be used. On account of the expense of using a large quantity of a 2- or 3-per-cent. solution, one can cleanse with any sterilized solution and then fill up the external meatus with the antinosin solution. Doing this several times a day in acute and once a day in chronic suppurations will soon produce a beneficial result. The salve of nosophen in the chronic eczemas of the external meatus will supplement other treatment and help to prevent the intolerable itching. William A. Mann (Med. Fortnightly, Oct. 2, '99).

OLD AGE.

In old age the diet should be simple, but nutritious. The patients should eat as do children: often and in small quantities. The evening meal should be light

and unstimulating. They should be especially cautioned about overloading the stomach and allowing themselves to become constipated. Alcoholic liquors, if used at all, should be taken with caution. Fresh air is very essential. The clothing should be warm, but light; they should be made to take out-door exercise every day. Marvin E. Nuckols (Maryland Med. Jour., Oct. 7, '99).

OREXIN TANNATE.

Individuals affected with hyperacidity or gastric ulcers, tumors, or cancer should not be treated with orexin, because the remedy does not act as a stomachic on the gastric glands, but on the muscular tissues, and the gastric peristalsis should not be increased in these affections. J. Bernheim (Independ. Méd., No. 20, '99).

OTITIS MEDIA, CHRONIC CATARRHAL.

Conclusions regarding the effect of atmospheric changes on the hearing in chronic catarrhal otitis media are as follow:—

1. The hearing in at least 70 per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions.

2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathological process in the tympanic cavity.

3. The morbid alterations most susceptible to barometric variations are those of hyperplasia.

4. In purely atrophic changes in the middle ear weather variations have little or no effect upon the auditory function.

5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube.

6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more (under unfavorable weather influences) in those whose general health is below par than in those otherwise healthy. Seymour Oppenheimer (New York Med. Jour., Oct. 21, '99).

PELVIC EXUDATE.

Treatment. — Unguentum Credé has been personally used in several cases of pelvic exudate with the most happy results. It reduces the temperature and diminishes the exudate. In one of the cases the exudate reached to the umbilicus, and the temperature was 102° to 103° F. There did not seem to be much toxæmia present, and the case was one of those in which rest in bed and laxatives are usually prescribed. It is extremely good in cellulitis. John O. Polak (Brooklyn Med. Jour., Oct., '99).

PNEUMONIA IN INFANTS.

The following is a summary of the conclusions reached in regard to pneumonia in infancy. The best three signs of obscure beginning pneumonia in infants under two years are:—

1. Disturbance of pulse-respiration ratio, so that it departs from the normal of 4 to 1 and approximates 3 to 1.

2. Fever: continuous, intermittent, or remittent.

3. Rales: fine.

Treatment. — 1. Hygienic: fresh air. 2. Dietetic: avoiding indigestion and flatulence. 3. Hydropathic: baths or packs.

Poultices, for pain only, should be used intermittently.

Heart-stimulants: strychnine, nitro-

glycerin, alcohol, and digitalis when needed.

Antipyretics (coal-tar products) are mentioned only to condemn them absolutely. W. P. Northrup (Med. Age, Oct. 25, '99).

PREGNANCY, DIETING IN.

In contracted pelves efforts should be made to influence the growth of the fœtus by strictly dieting the mother. The system personally used for some years is based upon the exclusion from the diet, as far as possible, of starchy and saccharin foods and upon the restriction of fluids. In other respects, but little change is made, and nitrogenous foods are given in moderation. The following is a fair example of the dietary used for some years, with excellent results, in private practice:—

For Breakfast.—A small teacupful of tea or coffee, an egg, and two slices of toast.

For Lunch. — Any kind of meat, game, or fish; green vegetables, one slice of toast or a dry biscuit, cheese; one wineglassful of wine, milk, or any other fluid, excepting malt liquors.

Afternoon Tea.—A small teacupful of tea or coffee, with one slice of bread and butter or cake.

For Dinner. — The same as for luncheon.

The quantity of fluid to be taken during each day is, therefore, restricted to about 15 ounces, and some patients at first find it impossible to satisfy their thirst with this quantity. The addition of a small quantity of lime-juice and effervescing water is sometimes useful, or the patient may be advised to suck thin slices of lemon, if the thirst is considerable. Bedford Fenwick (Canada Lancet, Oct., '99).

PUERPERAL FEVER.

Treatment.—The most important part of the treatment of puerperal fever consists in the prophylaxis. As regards the actual treatment of puerperal fever, when it has arisen, it is necessary, in the first place, that a thorough examination of the patient and of the uterus be made. Speaking generally, a septic substance found in the uterus should be removed, but there are some rare exceptions, of which may be mentioned strongly-adherent pieces of placenta unattended by severe general symptoms (though often by high fever and foul discharge); these cases will often do better if the elimination of the substance be left to Nature than if violent and generally ineffectual attempts be made to remove them. The uterus should be completely emptied by the finger, occasionally by large, blunt-ended forceps, but never by means of the curette after labor at full term.

After emptying the uterus, in all cases where there is a foul discharge, the uterus should be irrigated once with a solution of iodine (1 drachm of tincture of iodine to the pint), or a weak solution of perchloride of mercury or carbolic acid, or boric acid, or by a large quantity of salt solution. Continuous irrigation of the uterus is useful in cases where some adherent tissue has to be left behind.

The best intra-uterine tube is Budin's catheter made of glass. The difficulty about the treatment of diffuse peritonitis lies in the uncertainty of the diagnosis until the condition is well advanced. In cases where there is clearly septic fluid in the peritoneum operation is indicated. The milder forms of localized sepsis (perimetritis, parametritis, and phlebitis) are treated on the general principles of rest, hot and anodyne applications, etc. Quinine may be given

as a tonic; as an antipyretic it is useless.

Puerperal-fever patients need tonics and stimulants (alcohol, strychnine, digitalis, etc.), but the depressant antipyretics should never be employed; cold packing is a much better method of reducing the temperature.

Fresh air is very necessary. The administration of food at regular intervals in quantity as great as the patient can take is the most important part of the treatment, and alcohol may be given in large quantities with benefit. Where vomiting occurs rectal feeding with peptones should be employed.

The conclusion to which the study of the subject of serum-therapy has personally led is: (1) that as usually applied it has not a scientific basis; (2) that it has not lowered the mortality of puerperal sepsis; (3) that it usually lowers the temperature, and sometimes improves the general condition; (4) that its use is not free from danger. The remark from Olshausen is justified: "We obstetricians have derived no benefit from serum-therapy." Herbert R. Spencer (Brit. Med. Jour., Oct. 14, '99).

RHEUMATISM, ACUTE ARTICULAR, IN INFANTS UNDER ONE YEAR.

Acute articular rheumatism in infants is very rare. In the diagnosis of such a rare condition as acute articular rheumatism in young infants every other possible cause for the joint affection must be excluded before it is asserted that a given case is rheumatic. The points necessary to be established in making such a diagnosis are: mobility, proneness to migrate from joint to joint, absence of all tendency to suppuration, frequency of inflammation of the cardiac serous membranes, the favorable influence of the salicylates, and a family history, together with the absence of such affections as are apt to be attended with inflammation of the joints. According to this test, only nineteen undoubted instances of acute articular rheumatism occurring in infants under one year were found in the literature. D. J. M. Miller (Boston Med. and Surg. Jour., Oct. 19, '99).

SCABIES.

Scabies should not be treated by irritant ointments. The adoption of the following method is urged. The patient is instructed to take a thorough bath, after which sand-soap is to be used upon the tougher portions of the integument. Powdered washed sulphur is then rubbed over the entire skin-surface. Sulphur should also be placed between the bedsheets and shaken so as to evenly distribute the powder. This should be repeated for several nights, a cure being usually effected in a week. It should be used as a prophylactic measure whenever an individual is exposed to scabies. S. Sherwell (Boston Med. and Surg. Jour., Oct. 12, '99).

SOMATOSE.

The following conclusions are reached as the result of some observations and experiments made with somatose: 1. Somatose is a true meat-nutrient, possessing restorative and stimulating powers. 2. It is well borne by delicate patients. 3. It improves digestion and causes no gastro-intestinal disturbances. 4. It has a favorable effect on general metabolism. 5. It has no irritant effect on the kidneys and never gives rise to albuminuria, albumosuria, or peptonuria. In those cases where albuminuria existed prior to the administration of somatose, the albumin gradually disappeared from

the urine during its administration. T. Stevenson and A. P. Luff (Lancet, Sept. 30, '99).

SPRAINS.

Treatment. — To apply the electrostatic treatment in the most satisfactory and convenient manner, and with the best result in sprains, the use of the Morton wave-current, as used in the New York Post-graduate Clinic at the present time, is recommended. The patient is seated upon the platform with the negative pole grounded, the balls of the prime conductors being in contact, the affected joint being incased in a sheet or bandage of block-tin, closely molded to the surface. With one cord the patient is connected with the positive pole of the machine. The machine is started and the spark-gap is gradually opened until either the muscles are thrown into slight contractions or the patient complains of discomfort from the treatment. At this point the machine should be allowed to run for from ten to twenty minutes. At the end of the treatment, upon removing the metal bandage, the surface will be found wet and the patient will be able to move the joint with freedom and without pain, if the treatment has shortly followed the accident and there has been no solution of continuity. In any event, the patient will have been greatly relieved and the conditions much improved. William Benham Snow (Jour. of Electrother., Oct., '99).

STERILITY.

Etiology.—A woman may be barren owing to a single definite pathological condition; but it is often otherwise. In 84 cases of sterility observed by Doléris and Lefévre, several pathological conditions, none of themselves sufficient to prevent conception, were detected in combination in 66. This group of factors together effective in maintaining sterility consists of catarrh of the cervix, conical cervix, stenosis of the os externum, acute anteflexion, and free prolapse of the posterior vaginal wall. Treatment should be directed to all these complications. Lefévre (La Gynéc., Aug., '99).

STIMULANTS, CRAVING FOR.

That the blood normally contains stimulants, that these stimulants exercise a favoring influence on function, and conduce to, and may even be a necessary factor in the production of, the feeling of well-being, explains the wide-spread liking in man and beast for stimulating substances. This liking, amounting often to a craving, is the expression of a great physiological principle. When there is perfect health, when the blood is well provided with its proper stimulants and not overcharged with depressants, there is no craving for extraneous stimulants, as alcohol, tea, or coffee. But when it is defective with the one and surcharged with the other, then is left the desire for the glass of wine or the cup of tea. In order to obviate this desire we should seek to keep the body at the highest level of health. The more perfect the health, the more perfect will be the composition of the blood, both in respect to physiological stimulants and deleterious toxins. A blood properly constituted in these and other respects will exercise a gentle stimulant action on the nervous system and induce a condition of mild physiological intoxication, which expresses itself in a feeling of well-being and happiness: a condition which cannot be bettered. Harry Campbell (Lancet, Oct. 21, '99).

STRYCHNINE, ABSORPTION OF.

Personal experiments regarding the absorption of strychnine have established the following points:—

The absorption of strychnine in the stomach is incomparably lower than in any other section of the alimentary canal, and, furthermore, the absorbent power of the fundus seems to be even lower than that of the entire stomach. The power of absorption in the œsophagus is somewhat better than in the stomach, but is still considerably inferior to the absorption within the other parts of the alimentary canal. The power of absorption in the other three parts of the canal —*i.e.*, the small intestines, colon, and rectum—seems to be equal. The isolated rectum absorbs at least as well as the small intestines; in some experiments the effects appeared earlier when the rectum was isolated than when it had free connection with the remainder of the gut; from no part of the canal were such short intervals between the injection of the strychnine and the appearance of the tetanus observed as were frequently seen when it was injected into the rectum—in the latter case the interval was sometimes only two or three minutes; finally, impaction of the rectum proved to be no hinderance to the prompt absorption of the poison therefrom. S. J. Meltzer (Amer. Jour. Med. Sci., Nov., '99).

THROMBOSIS OF THE LATERAL SINUS.

The following symptoms will enable one to make a diagnosis of thrombosis of the lateral sinus without a delay of three or four days. In a normal unobstructed vessel, such as the internal jugular vein, a certain murmur is noted, which cannot be heard if the vessel is occluded. If the murmur is not present in a normal vessel it may be produced artificially by slight pressure of the stethoscope, which is placed lightly upon the neck close to the base of the skull. If the murmur is absent while present on the other side of the neck, or if slight pressure upon the jugular fails to produce it, the sinus is occluded by a thrombus. Voss (Arch. of Otol., Aug., '99).

TUBERCULOSIS IN CHILDREN.

Etiology. — The conclusions which may be drawn from post-mortem observations of 269 cases of tuberculosis in children are as follow:—

1. The commonest channel of infection with tuberculosis in childhood is through the lung.

2. Infection through the intestine is less common in infancy than in later childhood.

3. Milk, therefore, is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc.

4. Inhalation is much the commonest mode of infection in the tuberculosis of childhood, and especially in infancy.

5. The overcrowding of the poorer population in the large towns is probably responsible for much of the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this overcrowding, the improvement of ventilation, and the inculcation of the extreme importance of fresh air during the earliest years of life. George F. Still (Pediatrics, Oct., '99).

TUBERCULOSIS OF BONE IN CHILDREN.

Etiology. — The injuries that commonly end in disease are not numerous; yet it is well to bear in mind that trivial injuries are sometimes followed by the

most distressing consequences. Take, for instance, the tuberculous lesions of the bones and joints occurring in childhood. A slight wrench sometimes given by the mother or the nurse, or a playmate, is followed so closely by symptoms that point unmistakably to disease of the bones that we are bound to recognize the traumata as factors, at least in etiology. The common practice of "yanking" a child over a curb—that is, catching it by the arm or wrist, lifting it from street to sidewalk—sometimes ends in an injury to the elbow, characterized by the displacement of a tendon or an injury to the epiphysis. As a rule, these injuries are trifling and no lesion follows. Occasionally the hyperæmia set up in the neighborhood of the joint furnishes a fertile soil for bacilli, which may have been introduced long prior to this time into the system, and a tuberculous ostitis is the result. Children convalescing from the exanthemata or other infectious diseases are notoriously vulnerable, and the most trivial accidents are to be avoided. The more severe traumata, such as falling from a roof or out of a window, seldom end in disease. The result of these severe injuries is immediate. Proper means for relief are at once adopted and disease rarely follows. Virgil P. Gibney (Med. News, Oct. 28, '99).

TYPHOID FEVER IN CHILDREN.

In typhoid fever in children the food should be exclusively liquid until the temperature has been normal for ten days. A few drops of dilute hydrochloric acid, in a glass of water, make a useful and pleasant drink. The lips and tongue should be kept clean. When the tongue is dry and fissured, one or two applications should be made with a camel's-hair brush dipped in a 1- or 2-per-cent. solution of nitrate of silver. The posture in bed should be changed from time to time to avoid hypostatic congestion. The bowel should be irrigated frequently with water at 95° or 100° F. Internally, bismuth, sulphocarbolate of zinc, and salol are indicated. Stupor and coma should be combated by cold affusions while the body is immersed in water at 95° F. A. Jacobi (Med. Rec., Oct. 28, '99).

VAGINAL COLPOTOMY IN THE TREATMENT OF PELVIC DISEASE.

The following are the advantages claimed for vaginal as against abdominal section:—

1. A preliminary or exploratory vaginal section is always warrantable. 2. Drainage, when necessary, is more free and natural. 3. There is less danger of extending infection. 4. The limited peritoneal field exposed and handled reduces, to a minimum, pain, shock, and intestinal paralysis: frequent sequelæ of suprapubic abdominal section. 5. Postoperative nausea is lessened, and movements of the patients are less constrained, contributing much to their comfort and welfare. 6. Vaginal section may frequently be performed when the condition of the patient, especially in abscess-cases, would interdict any other procedure. 7. The danger of hernia through the scar is practically *nil*. 8. Recovery is quicker. 9. The mortality, as calculated from all reported cases, is materially lessened.

The contra-indications for the vaginal operations are: 1. An unusually small or septic vagina. 2. Such fixation of the uterus that it cannot be drawn down, or such enlargement of the organ that operations on the adnexa, when desired, cannot be carried out. 3. Evidences of tubercular degeneration or appendicular

disease. 4. Carcinoma with involvement of the uterine ligaments or iliac glands. 5. Cases of pelvic hæmatocele with active non-circumscribed hæmorrhage. Glass (Med. News, Aug. 5, '99).

VAGINAL SUTURING OF THE ROUND LIGAMENTS.

Vaginal suturing of the round ligaments is indicated in all cases of retroversion and flexion of the uterus that give rise to symptoms, and in which a pessary for one reason or other cannot be worn. The child-bearing period is no contra-indication to the operation, as the process of gestation and parturition are in nowise interfered with thereby. It is also indicated in those cases of backward displacement of the uterus associated with diseased and adherent adnexa of a moderate degree. It is contra-indicated in cases with shortened and infiltrated broad ligaments. It is also contra-indicated when the adnexa are very markedly diseased, forming a conglomerate mass which is universally adherent. It is further contra-indicated in cases of backward displacement of the uterus complicated with an ovarian abscess, or with adnexa which are firmly adherent high up in the abdominal cavity. Hiram N. Vineberg (Jour. Amer. Med. Assoc., Oct. 21, '99).

VARICOSE ULCERS.

Treatment.—In order to treat varicose ulcers successfully, it is necessary to understand first the pathological condition leading up to their formation. Personal preference of operative methods now in use is the excision of from six to eight inches of the internal saphenous vein, extending about equally above and below the knee-joint. All communicating branches are ligated and severed, and the wound is closed with silk sutures, the knee fixed by posterior splints, and the patient confined to bed. The results are extremely satisfactory, and the rapidity of epidermization is very marked. In addition to this method of treatment, curetting and skin-grafting are also advised. Healing of most intractable ulcers should take place in about three weeks. In those cases in which operation is refused, the ulcer should be dusted with sterile pulverized iron-ore dust, combined with a mild antiseptic dressing, such as a moist bichloride. F. E. Bunts (Phila. Med. Jour., Oct. 28, '99).

WHOOPING-COUGH.

Treatment.—In the treatment of whooping-cough a reliable fluid extract of chestnut-leaves or a tea made from the fresh leaves will prove of great value. From 20 to 60 drops of the fluid extract of chestnut-leaves should be given four or five times a day, the patient being allowed nothing to drink for a half-hour after taking this, or teaspoonful doses of the decoction of the leaves may be used. These doses are for children one year old or older. F. A. Remly (Texas Med. Jour., Sept., '99).

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CANCER.

Etiology.—Chevalier[1] believes that he has successfully cultivated the cancer-parasite. Initial cultures were made in bouillon made from the mammæ of the cow. This bouillon should be as nearly neutral as possible, and should have added to it 2 parts of sodium chloride to 1000. Such bouillon, inoculated with cancer-tissue, is incubated at 89.6° F. After some days there is noted a thin, whitish pellicle, with clouding of the

[1] Gaz. des Hôp., May 30, '99.

medium. Later, a precipitate forms which assumes a reddish color. After acclimatization in the mammary bouillon the organism may be transplanted to the following media: (*a*) In bouillon made from the mammary gland and containing glucose not exceeding 10 parts per 1000. (*b*) Agar. On the third day there form small, grayish, slowly-growing colonies, which eventually thicken and assume a rose color. (*c*) Serum. Growth like agar. (*d*) Gelatin. Grayish pellicle without liquefaction; the highest temperature is between 100.2° and 95° F. The rose color is believed to be associated with the formation of spores. Cultures show a remarkable polymorphism. These are unicellular spherules, which may attain a diameter of 12 to 15 microns. Within these, the endogenous spores appear, and eventually escape. The sporules resemble small corpuscles 1 micron or less in diameter, sometimes presenting a bacillary form. Irregularly-septate mycelia are developed. The organism stains by *bleu de Kuhne*, gentian-violet, safranin, picric carmin, and by the method of Gram. Subcutaneous inoculations on guinea-pigs, rabbits, and dogs produce tumors at the points of injection, followed by cachexia, and at autopsy in some of the cases there is lymphatic generalization and secondary nodules in the viscera. Histologically such tumors sometimes resemble sarcoma and sometimes carcinoma. The organism is thought to be identical with the organism described by Bra.

Pathology. — Difficult though it may be to isolate any enzyme in cancer-cells, G. T. Beatson[2] is of the opinion that there are grounds for continuing the search. With the presence of one or more enzymes established in cancerous growths, a great deal in connection with the carcinomata that otherwise seems unaccountable would be explained. Thus, it would clear up those variations in the rate of progress of cancer that are seen in different individuals and at different ages, for then would come into play that resisting power of the tissues which depends on their suitability, or otherwise, to serve as pabulum for the advancing cells. If they do not yield easily to the digestive action of the cancer-cells, then the disease will be slow, for the new growth must suffer from want of nourishment, and its cell-proliferation will accordingly be lessened. On the other hand, if the tissue-cells are easily assimilated, then the growth will be strong and vigorous. From a therapeutic point of view, also, an enzyme would be of great assistance, as it might allow of medicine's coming to the help of surgery, and possibly supplementing local removal in such a manner that a more permanent cure might be relied on.

Cancer of the Uterus.—PREVENTION. —A. Lapthorn Smith[3] regards cancer of the uterus as preventable. If one believes, as Emmet has conclusively proved, that cancer of the cervix almost always begins in the cicatricial tissue in the angle of a laceration, then, by removing the cicatricial tissue and repairing the laceration, this dreadful disease might be stopped, at least so far as the cervix uteri is concerned. And this is what has happened in personal experience. A practice has been made to repair every lacerated cervix at personal clinics and hospitals, with the result that, out of 5000 gynæcological cases, of which a complete history has been kept, there are at present less than 25 of marked laceration of the cervix remaining unrepaired. The result is most striking: instead of

[2] Edinburgh Med. Jour., Nov., '99.

[3] Jour. Amer. Med. Assoc., Nov. 25, '99.

having two or three cases a month of cancer of the uterus, as was common ten years ago, only three or four are seen in a whole year.

TREATMENT. — In deciding whether vaginal hysterectomy should be performed or not in carcinoma of the uterus, F. B. Jessett[4] gives the following rules for guidance: 1. If, on examination of a patient at or past the menopause who is suffering from a uterine discharge, which discharge is colored and offensive, and in whose case the introduction of the sound causes bleeding, diagnosis of carcinoma of the body of the uterus is pretty certain, an operation should be advised. Should any doubt, however, exist, the cervical canal should be dilated, the cavity curetted, and the *débris* examined microscopically. If the report of the pathologist is unfavorable, operative measures for the removal of the entire organ should be urged at once. 2. If the disease has commenced in the cervical canal or the external os, even if the walls of the vagina are somewhat invaded, so long as the uterus itself is not fixed or the broad ligament invaded, operation is to be advised. Even in advanced cases, so long as the uterus is movable, much relief may be afforded and life may be prolonged by vaginal hysterectomy.

To the present time, 107 vaginal hysterectomies for cancer of the uterus have been personally performed. Nine of the patients died from the operation: 3 from shock, 2 from intestinal obstruction, and 4 from peritonitis. Of the 4 patients operated on in 1892, 1 is known to be well at the present time, 1 died within a year from recurrence, 1 had early recurrence, and 1 was lost sight of. Of 17 patients operated on in 1893, 1 died from septic peritonitis and 6 had recurrence and died within a year. There was no local recurrence in any case. In 3 cases the patients have been lost sight of, but they were well twelve months after the operation, and the remaining 5 were free from recurrence when last seen: two and three years after operation. Of 22 patients operated on in 1894, 5 had early recurrence and 3 died from the operation, viz.: 1 from shock, 1 from intestinal obstruction, and 1 from peritonitis. One patient died twelve months afterward from other causes and there was no local recurrence. Seven patients were well when they were last seen, from nine to fifteen months after operation, and the remaining 6 were well after two years and, so far as is known, they have had no recurrence. Of the 16 patients operated on in 1895, 5 had early recurrence: 2 within a year, 2 within two years, and 1 within two and a half years. The remainder were well when they were last seen, and, of these, 4 have been seen or reported on quite recently. Of 18 patients operated on in 1896, 2 died from septic peritonitis, 5 had recurrence within a year, and 1 died within the year from secondary glandular affection and with no local recurrence; 2 patients were lost sight of, and the remainder were free from recurrence when last seen or heard of. Of 18 patients operated on in 1897, 2 died: 1 of them from intestinal obstruction and 1 from peritonitis. In 3 there was early recurrence, 1 had secondary deposits in the abdomen, 2 were lost sight of, and the remainder were free from recurrence when last seen. Of 12 patients operated on in 1898, 1 died; this was a case of combined abdominal and vaginal hysterectomy, the carcinomatous uterus being also the seat of several myomata. In 1 case there was immediate recurrence; upon the re-

[4] Lancet, Nov. 18, '99.

mainder it is too early to make any comment, although they are free from recurrence at present.

As cancer of the uterus is, in the beginning, an entirely local affection, A. Lapthorn Smith[5] declares that, if the disease were always detected thus early, while still limited to the angle of the tear or to the mucous membrane of the uterus, total extirpation would, in most cases, be followed by cure. Provided that the uterus is freely movable, even if cancer has invaded the whole of it, vaginal hysterectomy with ligatures gives good results. If a little less movable, the clamp method, is more feasible. If firmly fixed, and the disease has extended to the broad ligament, a thorough curetting and the application of pure carbolic acid freely to the mucous membrane lining the uterus will retard the progress of the disease and add greatly to the woman's comfort. This may be followed by a Schroeder amputation of the cervix; but before closing up the flaps it is well to sear them lightly with the cautery in order to destroy the microbes. This has prolonged life from two to five years, and in one case the woman has since been confined twice, and is still alive. It is a great mistake to remove the uterus when the broad ligaments are affected, as the disease only progresses more rapidly than if let alone.

An important point which should be carefully observed is that all cut surfaces should be thoroughly washed before completing the operation, to avoid the danger of reinfection.

According to E. E. Montgomery,[6] the study of operative treatment of cancer of the uterus justifies the following conclusions:—

1. Cancer of the uterus is a local disease in its origin, which tends to invade the neighboring structures, but extends to the corresponding lymphatic glands much more slowly than in other parts of the body.

2. The chief dangers of relapse are from nests in the adjoining tissues which have escaped removal, and reimplantation of fragments during the progress of the operation.

3. The *data* at our command form no accurate basis upon which to establish definite or positive prognosis.

4. From our present knowledge, we must depend upon the subsequent progress to determine the cure. If relapse occurs it will most likely take place within the first six months. Should the patient escape two years, cure may be considered as having been established.

Cancer of the Breast.—Of 61 cases of breast-cancer operated upon by Watson Cheyne,[7] 30 patients have remained free from recurrence, 29 of these having passed the three-year limit; one died from the operation and 3 have been lost sight of. Taking these results along with the results obtained by Halsted, Butlin, and a variety of other operators, the following conclusions are justified:—

1. Taking cases of all kinds together, not merely selecting favorable cases for operation, but operating on all cases in which operation is possible, except where there is marked enlargement of the cervical glands,—especially if, at the root of the neck in front of or beneath the sterno-mastoid, there are glands of considerable size,—about 50 per cent. of the patients will remain free from recurrence if the operations are carried out on the lines laid down by Heidenhain and Stiles.

2. That, even in the cases which do

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[5] Jour. Amer. Med. Assoc., Nov. 25, '99.
[6] Penn. Med. Jour., Nov., '99.
[7] Lancet, Mar. 18, '99.

recur, recurrence is considerably delayed, and the patient enjoys a considerable interval of good health.

3. That the repeated operations which take place after the old operation are now very rare, recurrences, when they do appear, being usually in inoperable situations.

4. The chance of recurrence is extremely slight after these extensive operations in patients who have remained well for from one to two years, and after three years there is only one example in personal list of fresh cancer, and in that case there is no evidence that that was one of recurrence of the original disease rather than a fresh development.

5. The patient's chance lies in the first operation. If this fails, either from imperfect removal of the disease or on account of the extent of the disease in the first instance, further operation, however extensive, is seldom successful. When a cancer is quite small, patients and practitioners are very apt to be content, in the first instance, with a small operation, thinking that if recurrence takes place an extensive removal can be performed afterward. This is an utter fallacy, and the performance of a partial operation in the first instance takes away the patient's best, and often her only real, chance of getting rid of the disease.

H. J. Stiles[8] emphasizes the fact that in mammary cancer the glands toward the apex of the axilla and beneath the clavicle may be diseased, while the pectoral glands are normal. There are two points which are not sufficiently attended to in clearing out the axilla: the one is the removal of the fascia over the serratus, which cannot be done satisfactorily unless some of the fibres of the muscle are dissected away along with it; and the other point is that in removing the glands from the neighborhood of the axillary vein the sheath of the latter should be taken away. It is advisable, moreover, to remove the branches of the axillary vein which proceed toward it from the chest, since they also are accompanied by lymphatics. The subscapular nerves should be spared if possible. Although Halsted recommends and practices the clearing out of the supraclavicular region in every case of cancer of the breast, most surgeons will be disposed to await the results of the microscopical examination of the tissues removed from this region before following his example.

Cutaneous Cancer.—A. Ravogli[9] states that there is reason to believe that, from the penetrating power of formaldehyde, it is able to reach the nest of cells of the superficial cancer and reduce them to a hard *detritus*, which is subsequently sloughed off from the normal tissues. In order to increase its action, when applying the paste it is better to cover the paste with a piece of rubber or of oiled silk, so as to prevent its rapid evaporation.

Formaldehyde in superficial cutaneous cancer is one of the best local applications. In deep-seated nodular carcinoma of the skin treated by bathing with a 4- to 6-per-cent. formaldehyde solution the patient has been benefited by these applications.

The curettement, used a great deal by Kaposi and also by Besnier, is a good method for a superficial epithelioma, if followed by cauterization, even with the thermocautery or with formaldehyde.

When one has to do with a deep-seated, nodular carcinoma, or with the papillary vegetating cancer, the surgical exeresis is the best treatment. The removal of the whole growth at some distance from the

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[8] Brit. Med. Jour., June 17, '99.

[9] Jour. Amer. Med. Assoc., Nov. 18, '99.

healthy skin is the only means of destroying the growth and preventing infection. In the cases where the lymphatic glands near by are involved it is necessary to resort to surgical extirpation of the lymphatic glands.

In the unfortunate cases where the growth has taken such proportions that any surgical operation is absolutely impossible, a solution of 2 per cent. of formaldehyde left for some time on the ulcers, in the form of compresses, cleanses them, removes the offensive odor, and diminishes the sero-purulent discharge. In this case formaldehyde is only a simple auxiliary means.

Treatment. — A. C. Bernays[10] states that his method of dealing with patients who seek aid when they are afflicted by a cancer is as follows:—

1. When the disease is clearly curable and the danger is slight, operation is urged, an immediate performance of the same is insisted upon, and the prospects of a cure are represented as highly probable.

2. When there is considerable involvement of the lymphatics, the operation is not strongly urged, but the patient is told that the chance of a cure, though small, still exists, and an attempt at a radical extirpation should be made.

3. When the danger of an operation is very great, but where the removal of all involved tissues can be completed,—*i.e.*, where the operation is anatomically thinkable,—the grave dangers of an immediate death on the operating-table are presented, and, though holding out but little hope of a cure and only a probable prolongation of life, enough encouragement is given to inspire the patient with some expectation of being benefited.

4. Finally, in anatomically-impossible cases, it is not justifiable to refuse to operate in some fashion if, after knowing the truth as to the hopelessness of the condition, a patient demands that an operation be done. In these cases the psychical effect of even an imperfect partial removal of the offensive cancer sometimes is very beneficial.

CONJUNCTIVITIS.

Treatment.—Infectious conjunctivitis is understood by Dudley S. Reynolds[11] to include all forms of conjunctivitis that are contagious or communicable from one person to another through various media. All the infectious or catarrhal types of conjunctivitis are retarded by the use of alkaline lotions, and all are intensified and greatly aggravated by the use of stimulating astringents and caustic applications. The treatment by irrigation is the only rational mode of cleansing.

In the white staphylococcic forms of infection the irrigation may be practiced with normal salt solution, or with the following:—

℞ Borate of sodium, 3 ounces.
Chloride of sodium, $^1/_2$ ounce.
Cryst. carbolic acid, 15 grains.
Water, 1 gallon.

The upper lid being everted and the irrigating-bag being hung twelve inches above the plane of the patient's eye, the nozzle of the irrigator may be held over the bridge of the patient's nose and the fluid allowed to run over the everted lid and the inferior retrotarsal surface into a mass of absorbent cotton held on the temple. This should be repeated every half-hour, and when the matter accumulates sufficiently to exude between the lids this interval should be shortened by one-half. If no accumulation of matter

[10] N. Y. Med. Jour., Nov. 11, '99.
[11] Med. News, Oct. 28, '99.

appears, the interval may be increased until there is no necessity for the repetition of the irrigation.

In the yellow staphylococcic infection the treatment may be precisely the same; however, in some cases the irrigation must be repeated at intervals of ten minutes during a period of two or three days and nights.

In the gonorrhœal type the same plan may be pursued, but a more efficient irrigation may be made by dissolving 3 ounces of chloride of sodium, 8 grains of bichloride of mercury, and $^1/_2$ drachm of carbolic acid in 1 gallon of water, which should be filtered before using. With this the eye may be irrigated every ten minutes from the very beginning of the attack. Care should be taken never to allow the nozzle of the irrigator to approach nearer the infant's eye than one inch. To perform the irrigation properly two persons are required. Having prepared the irrigation and placed the patient on his back, one person may evert the lid and hold a mass of absorbent cotton-wool on the temple to catch the outcoming discharge, while the other manipulates the irrigator.

In the different varieties of conjunctivitis, and especially in those accompanied by marked discharge, as the acute contagious and the purulent, Clarence A. Veasey[12] has found solutions of toluidin-blue of special value. The drug, according to Merck, is prepared by oxidizing a mixture of thiosulphonic acid and orthotoluidin with a chromate to an insoluble sulphonic-acid green, then boiling the latter with a zinc-chloride solution, and subsequently oxidizing the leuco-compound. While considered a zinc-chloride double salt of dimethyltoluthionin, its composition shows it to be an hydrochlorate. The strength of the solution that has given the best results is 1 part in 1000. The affected part should be cleansed first with some cleansing lotion,—boric-acid or salt solution,—sufficient force being used to get rid of the accumulated secretions, and then the part should be flushed thoroughly with the solution of toluidin-blue, and, after it has remained in contact with the parts for awhile, the excess is to be washed off with the boric solution. As every particle of mucus or muco-pus is stained a deep blue, none can remain on the conjunctiva without being detected. The stain on the fingers and surrounding skin is readily removed with a moist pledget of absorbent cotton. The more copious the discharge, the more frequently the instillations have to be made.

Edward Jackson[13] says that acute conjunctivitis includes, in addition to the effects of eye-strain and local irritants, at least five specific infections; and that successful treatment depends on the careful discrimination between the different classes of cases. Eye-strain is always to be thought of and eliminated. In all forms of conjunctival infection complete cleansing at sufficiently-short intervals is of the greatest importance. Protargol is to be employed for purulent conjunctivitis, with a few applications of a strong solution of silver nitrate in bad cases. Mydriatics and cocaine should not be prescribed for acute conjunctivitis. To secure the greatest cleanliness of the conjunctiva and to limit the dangers of infection all forms of poultice, bandage, and compress should be carefully avoided.

HÆMORRHOIDS.

Etiology. — J. Boas[14] regards local causes as always responsible for the de-

[12] Ther. Gaz., Sept. 15, '99.

[13] Med. News, Sept. 9, '99.

[14] Deutsche medizinal-Zeitung, Oct. 30, '99.

velopment of hæmorrhoids, and treatment of these effects a cure. Among local factors, those which prevent the return-circulation through the portal system and vena cava are most important. Rectal and perirectal tumors, the pregnant uterus, tumors of the large intestine, disease of the adnexa, stones in the bladder, intestinal ulceration, stenosis, catarrh, etc., may give rise to hæmorrhoids. The most important and benign causes are those which are due to the pressure of hard and stagnated fæces upon the rectal ampullæ or sigmoid flexure. When hæmorrhoids develop with normal defecation, there is present a certain hypoplasia of the venous plexus, perhaps also an atrophy of the rectal mucous membrane itself. In cases with diarrhœa there exists, as a rule, a more deeply situated catarrh of the large intestine or rectum, under whose influence an increased congestion of the hæmorrhoidal plexus may occur.

Treatment.—Milton P. Creel[15] observes that it is very erroneous to believe that by surgical means alone can hæmorrhoids be successfully treated.

Constipation is one of the most constant causative factors. To correct this, the patient should be put on a rational diet, and some simple laxative given often enough to evacuate the bowel. Regular systematic exercise must be taken.

The best method of local treatment is by anusol suppositories, composed of anusoli, zinc oxide, balsam of Peru, oil of theobroma, and creatin ointment. One of these suppositories is to be inserted into the rectum every night before retiring, except in those cases where the condition is attended with a great deal of pain, when the suppositories are used night and morning, or in cases where the condition is very aggravated, when they may be used every eight hours.

These patients should occupy the recumbent position, if speedy results are desired. When there is protrusion of the hæmorrhoids from the margin of the anus, more favorable results are obtained by introducing a suppository, not only in the rectum, but by squeezing one up between the fingers and smearing it all over the protruding hæmorrhoidal tumors. Cases which have not been properly treated, and which have been in existence a long time, will sometimes require surgical means of relief. But in personal practice of twenty years no case has ever been seen which called for operation.

According to J. Boas,[16] the most frequent and most satisfactory treatment of hæmorrhoids lies in the treatment of the habitual constipation, in the prevention of large fæcal accumulations, and this not by means of laxatives, but rather by persistent dietetic treatment which produces large and soft evacuations, and prevents fæcal impaction, especially in the rectal ampullæ. Single, long-continued, and large hæmorrhages justify a relative diminution of alcohol, pepper, mustard, etc. General hygienic measures must be observed, exercise, gymnastics, riding, billiards, lawn-tennis, foot-ball, etc. Cleansing of the anal portion of the rectum with astringent solutions, preferably tannin or alum, is important. Rectal enemata, with gradually elevated douche, are very serviceable. In the later stages of hæmorrhoids the regulation of the constipation or the cure of a constipative intestinal catarrh is more difficult, and requires the aid of laxatives and irrigations. Sulphur, compound licorice powder, magnesia usta, and citrate of magnesia in as small a

[15] Med. Summary, Nov., '99.

[16] Deutsche medizinal-Zeitung, Oct. 30, '99.

dose as possible may be used. The success of the internal therapy of hæmorrhoids depends upon the treatment of the etiological factors. Suppositories and ointments may be of service in excoriations of the varicosities and in slight hæmorrhages. Small hæmorrhages require no special treatment. If, despite normal defecation, habitual hæmorrhages occur, then the fluid extract of hamamelis is indicated, 1 drachm being given in a glass of water three times a day.

In acute and alarming hæmorrhages the best treatment is tamponing of the rectum with ferripyrin, chloride of iron, or iodoform gauze, care being taken that the tampon reaches the bleeding-point. At the same time a full dose of opium is given to quiet intestinal peristalsis. In three days the tampons may be removed, and a dose of castor-oil given. In constriction of the hæmorrhoids, a suppository of cocaine and opium is to be introduced if possible. Then, after a thorough inunction of the entire anal portion and the rectum itself, reduction of the constricted portion is carefully undertaken in the side position,—if needs be, with the aid of chloroform, ether, or Schleich anæsthesia. Leeches may be applied in the region of the varicosities, reduction being usually easy after sufficient blood has been withdrawn.

Gustavus M. Blech's[17] method of operating for internal hæmorrhoids is as follows: A few days prior to the operation the patient is treated with mild laxatives. A bath is ordered prior to the operation, and the parts shaved. Two ounces of a 10-per-cent. solution of hydrozone are thrown into the rectum. Nascent oxygen being formed by the contact of the drug with the diseased membrane, the solution is allowed to remain while foaming about a minute, and then the entire rectum is irrigated with a 2-per-cent. solution of antinosin. Preparation of instruments and hands is made in the usual manner.

A good dilator is introduced to expose the tumors, which can be grasped with a vulsellum forceps. It is better to start with the smaller tumors. Under no circumstances should the tumor be dissected up at its base. Personally, no dissection is made at all, but with a sharp bistoury the base of the tumor or sulcus is nicked enough to permit the lodging of a strong silk thread. A straight threaded needle is then passed through the base, the needle removed, and each side tied carefully, so as to produce strangulation of both halves of the tumor. The silk is tied when fitting into the line of incision. Two-thirds of the tumor (from above) is cut off with a sharp straight scissors. The field of operation is again irrigated with a 2-per-cent. solution of antinosin, followed by a douche with a normal saline solution. The wounds are dusted with nosophen and the parts let alone, save a pad of gauze placed over the anus and secured by a bandage.

Coplin Stinson[18] uses the following operation in hæmorrhoids: The internal hæmorrhoid is drawn down into view by forceps, and a broad-ligament forceps is then applied to the base of the pile, parallel to the long axis of the bowel. They are pressed against the rectal wall and clamped, the object being to include as much of the pile-base as possible. The pile is now cut off, leaving only sufficient tissue on the surface of the forceps so that the open mouths of vessels can be located and separately ligatured, and the cut edges be accurately stitched with continuous sutures of cat-

[17] International Jour. of Surg., Dec., '99.
[18] New York Med. Jour., Aug. 26, '99.

gut. Any other tumors are similarly dealt with in turn. Finally, the forceps are removed in the order in which they were applied.

In the excision of hæmorrhoids George Reinbach[19] finds that the method as practiced at the Mikulicz clinic is productive of the best results. In the important points it is identical with Whitehead's operation. The preliminary preparation consists in the administration of oleum ricini three days before operation, and restricted diet. On the evening before and on the morning of the day set for operation rectal irrigations with boric-acid solutions are given, followed by tincture of opium, 10 to 15 drops. The lower third of the rectum is covered with a paste made of iodoform and 3-per-cent. carbolic solution. The technique differs from Whitehead's as follows: The sphincter is not stretched to the point of paralysis, the anus is merely dilated enough to bring the hæmorrhoids into view. Hæmostasis is solely accomplished by suture. No ligatures are used. The suture is made with catgut instead of silk. Blood is removed during the operation by a continuous irrigation with cold boric-acid solution. The use of sponges is interdicted. The line of suture is dressed with a paste of iodoform spread on gauze. The bowels are moved for the first time on the tenth day, being kept costive by the administration of opiates. Phlebitis, thrombosis, and ulceration contra-indicate this operation. Eighty-one cases thus operated upon from one to five years ago have been followed with no recurrence.

HERNIA.

Diagnosis. — In speaking of the non-strangulated hernia of infants, Thomas H. Manley[20] says that the practitioner should be assured beyond doubt that visceral ectopia is present before a truss is adjusted, for the chances are, in most of these cases, that there is an imperfectly-closed funicular process, or a cyst lying among the myxomatous elements of the cord. In other cases one may find in the infant a mixed condition, or cystic disease and hernia combined.

When in doubt about what to do in these cases, one may usually wait, as time will clear up all doubt. Should the family insist on a positive opinion and the patient be in a proper condition, an exploratory incision may be made. In infantile and many other herniæ an accurate diagnosis is only possible by a free exposure of the concealed parts. When this is resorted to, however, one must always be prepared to superadd the operation for the radical cure of hernia if one exist.

Etiology of Diaphragmatic Form.— Grosser,[21] aided by statistics of Lacher, Thoma, and Kaufmann, has collected 433 cases of diaphragmatic hernia. It may be classified as congenital and acquired, each of these classes being subdivided into true and false. Still another form includes cases of congenital eventration. True acquired hernia is very rare, no case having been recorded during the last twenty years. The false acquired herniæ are usually traumatic and almost always occur on the left side. True congenital herniæ are much rarer than false, and both are more frequent on the left side. Congenital diaphragmatic herniæ result from malformations of the diaphragm. As a rule, the insufficient capacity of the abdominal cavity prevents operative reduction.

Contents.—According to L. L. Hill,[22]

[19] Beiträge zur klin. Chir., B. 23, H. 3.
[20] Memphis Med. Monthly, Nov., '99.
[21] Wiener klin. Woch., June 15, '99.
[22] Medical Record, Aug. 26, '99.

a study of statistics shows that the vermiform appendix is found in about 1 ½ per cent. of herniæ, and that in not quite 3 per cent. of these cases the appendix is found upon the left side. The appendix more frequently forms a hernia in children, being found in a little more than 2 per cent. of herniæ.

Treatment.—J. Langton[23] remarks that hernia in infants is chiefly of the inguinal variety. As a preventive, a diet should be adopted which will prevent chronic intestinal irritation with consequent distension of the intestines and increased abdominal pressure. Muscle-exercises which strengthen the abdominal muscles are of value in children over three years of age. The truss used should be covered with soft rubber, and attention must be given to dryness and cleanliness. To obtain a cure, the instrument must be worn day and night, and removed only for the purpose of cleanliness. The prospect of a permanent cure is most encouraging, and indications for operative treatment are not often present. Operation should not be advised except under unusual or pressing conditions prior to five or six years of age. It is considered necessary in cases of irreducible omentum, strangulated hernia, fluid in the hernial sac, in cases in which it is impossible to retain the hernia by mechanical appliances, in cases in which proper treatment is impossible owing to the incompetence or ignorance of the mother, and in cases in which a truss has been worn for three or four years with no benefit.

In regard to the treatment of inguinal hernia in children, Eccles[24] thinks that the following are the cases in which an operation may be advised:—

1. Where a child is being properly fed, but in whom a hernia after a fair trial is not retained by a suitable truss, so that there is little or no chance of a spontaneous cure.

2. Where part of the contents of the sac is irreducible.

3. Where a truss has been worn for at least three years, but with no apparent cure of the protrusion.

4. Where a child has reached the age of at least three years, but has never worn a truss.

5. Where a herniotomy has to be performed for strangulation.

Harry Lane,[25] in speaking of a new surgical method for the treatment of inguinal hernia, claims that it permits the patient to continue his daily work, that it is inexpensive, and promises relief, if not cure, to a large majority of these cases. It consists of the introduction into the inguinal canal of a needle which is connected with a battery, 20 milliampères being allowed to pass for about twenty minutes. A truss is worn for from fifty to sixty days after the treatment, which, if not followed by a return of the hernia, is then left off, and the case is regarded as cured. Several cases have been successfully treated. In two cases the hernia had been present for twenty years. The operation performed three years ago has not been followed by recurrence.

From a personal observation of Bassini's operation, as performed by himself, E. Wyllys Andrews[26] gives the following: His technique in the operations is unvarying in the precision of its smallest detail. The time required by Bassini for an inguinal herniotomy is twenty to twenty-five minutes, for a double rupture thirty-five or forty-five minutes. The patient is shaved and cleansed on the

[23] Brit. Med. Jour., Aug. 19, '99.
[24] *Ibid.*, May 13, '99.
[25] Med. Sentinel, Aug., '99.
[26] Medical Record, Oct. 28, '99.

previous day, but not dressed with sublimate gauze or any covering. The hands of the operators receive an exceedingly prolonged scrubbing—nearly thirty minutes—before being placed in sublimate solution—3 to 1000.

The patient is prepared before anæsthesia by (1) prolonged scrubbing with soap and water; (2) copious washing with decinormal saline solution; (3) 3 to 1000 sublimate solution copiously applied on compresses and poured over the parts. Rubber-cloth leg-covers like boots are now drawn up over the legs and thighs. Thick, red, rubber cloths are placed over the upper part of the body. Gauze pieces one metre square are laid over the intervening parts in several layers, and more sublimate—3 to 1000—is poured over them. The usual tying of gauze over the penis is attended to. Sublimate solution is used rather frequently before the incision and after the wound is closed, but none is poured into the cut tissues, although the hands and sponges are washed in bowls of it.

During the last part of the preparation the patient is rapidly put under chloroform, his knees having been secured by straps to the table.

The gauze over the inguinal region is now cut open from the pubes to the iliac spine, uncovering a space a little larger than the skin incision. The latter is made by drawing the skin and fat into a fold transverse to Poupart's ligament. This is seized by the operator's left thumb and forefinger, while the assistant grasps the same fold about an inch away. About 7 to 10 centimetres is the height of the fold drawn up, and this is quickly incised between the operator's and assistant's hands, making an incision 12 to 18 centimetres long and 3 or 4 centimetres above Poupart's ligament. The aponeurosis of the external oblique is laid bare at a single stroke, and the pillars of the ring exposed. Half a dozen bleeding-points are at once seized. The superficial epigastric vessels are divided near the middle of the incision. The canal is laid open, not by dividing the ring and external oblique on a director, but merely with a stroke or two of the scalpel from above downward parallel to the coarse tendinous fibres of the aponeurosis. The dissection of the external oblique is quickly made with the handle of the scalpel until Poupart's ligament is exposed on its inner aspect. The cord-mass, containing the cremaster, hernial sac, and spermatic cord, is now raised by a blunt dissection and any lobules of loose fat stripped away as high up as possible. The cremaster muscle, when developed into large strings, is removed in the same way, often between ligatures. The isolating of the sac is usually begun at its neck. Even in congenital hernia the isolation of the sac is usually accomplished, at least at its cervical portion. The neck of the sac is now detached from the internal ring by loosening the parietal peritoneum for 2 centimetres all around it. The deep epigastric vessels will always be seen if this has gone far enough. It is now certain that the sac can be removed at a point high enough to insure that no funnel or even dimple will be left leading down into the repaired ring. The sac is now opened widely at its fundus, and its whole interior inspected. If no adherent contents are found, a clamp is at once placed upon its neck as high as possible. Adherent masses of omentum are returned after careful hæmostasis, and such masses are removed only when they have become much thickened and hardened, as in certain old hernias. The method of removing the sac is by tying around its neck above the clamp a strong silk ligature. In small sacs this is sufficient;

in large ones the ends of the same ligature are threaded upon a needle passed through the stump and tied around over the first loop. The sac is now cut off just outside the clamp and the latter removed. The dissection of the peritoneum away from the internal ring has also had the effect of loosening the transversalis fascia and internal oblique muscle; so that the margins of the internal ring are free and even undermined. These are the structures to be included in the Bassini operation in the first, or deep, line of suture, intended to restore the enlarged ring to its normal size. To facilitate the insertion of these stitches a forceps is made to grasp the transversalis and internal oblique, pointing from the internal ring inward, one blade being just outside the peritoneum: *i.e.*, the blades grasp the whole of the posterior wall except the peritoneum. A flat director is also used in some cases at this stage, thrust into the internal ring to push the posterior wall forward, and to steady it as the needle enters its substance. The insertion of this deep suture-line is the essential and important feature of the operation. The divided external oblique aponeurosis is held apart by retractors; so that the inner aspect of Poupart's ligament is accessible and visible. The cord is held outside the canal by a loop of silk clamped with an artery-forceps to the gauze covering the abdomen. Good-sized silk previously sterilized by boiling in glycerin is taken from the antiseptic and threaded by the operator's own hands upon a semicircular self-threading needle. This is done at the moment of using. A needle-holder is used for the two deep suture-lines, but for the skin-suture the needle is held in the fingers. The deep stitches are placed beginning very close to the pubic bone. The first one or two may, in some cases, include part of the rectus muscle and sheath. Each stitch enters the transversalis and internal oblique 1.5 centimetres from their lower margin, and makes exit at that margin. The needle then penetrates the shelving edge of Poupart's ligament from within outward. From four to six such stitches are placed behind the cord, the last one narrowing the internal ring until it fits tightly around the cord and forceps-blade. The order of tying these stitches is the opposite of their insertion. The distance between these stitches is 1.5 or 2 centimetres. Their effect is not only to restore the length and obliquity of the canal, but to invert the upper, or muscular, segment like a Lembert suture, and to draw it somewhat behind the ligament, and not merely against it. The cord being replaced in the repaired canal, the second suture, that reuniting the external oblique aponeurosis, is placed as follows: The outer angle is lifted on a blunt hook and two silk stitches are placed here and tied. A running or continuous suture is then rapidly inserted until the pillars of the external ring are reached. Here one or two separate stitches are then placed to bring it to the proper size. All the arteries are now tied with silk. The final step of closing the skin is by a continuous silk suture, inserted with a half-curved needle held with the fingers only. The pinched-up flaps are both transfixed by the needle about 1 centimetre from their cut edges. While the needle is sticking through the skin, the slack of the thread is wound twice around its point, after which it is pushed through. This forms a continuous button-hole suture. Drainage is seldom employed in these herniotomies, but in occasional cases in which there is obstinate oozing a rubber tube is inserted at a point some distance from the suture-line. The first and practically the only

dressing is by moist sublimate compresses of gauze. Over this are large masses of salicylic cotton made to envelop the hips, thighs, and abdomen, front and back. The patient is then drawn down upon two steel rods projecting from the end of the table, and the whole enveloped in wet-starch-and-lime bandages from the middle of the thighs to the middle of the abdomen. The steel rods are included in the bandage and are drawn out when the patient is laid upon the car or bed. The time of the first and only redressing is about the eighth day. When the skin-suture is removed on the eighth day, a light gauze dressing is placed over the wound. The patient is at once allowed to leave his bed and go home, with advice to remove this dressing in a few days himself. No truss or support is ever used, and no limit to exercise is enjoined.

In the radical cure of hernia William B. Coley[27] thinks that no operation has yielded such brilliant results as Bassini's. During the past eight years he has operated upon 639 herniæ with but 1 death. Bassini's technique is departed from in the substitution of chromicized kangaroo-tendon for silk in the buried sutures, and a suture is introduced just above the cord, it being passed through the same structures below the cord, with a desire to prevent any further separation of the tissues above the new internal ring, and keeping the cord restricted to narrower limits. The use of absorbable sutures is the most important modification of modern methods. The operation should be performed upon children over four years of age on whom a truss has been given a fair trial without marked improvement; in cases complicated by fluid in the hernial sac; and in all cases of femoral hernia. The results of the operation for femoral hernia are often more successful than for inguinal.

For the radical cure of hernia Charles A. Sturrock[28] finds the following operation of value: A short incision is made, the centre of which lies immediately over the external abdominal ring; the subjacent structures are then divided until the sac of the hernia is exposed, which is then isolated and separated from its attachments as far as the internal abdominal ring, care being taken to avoid division of any of the muscles which form the anterior boundary of the inguinal canal. An incision is now made into the most dependent part of the sac, and the forefinger of the left hand or a pair of forceps is passed through this incision into the abdominal cavity, the tip of the finger being placed at a point one inch above the spine of the pubes and midway between the internal and external borders of the rectus abdominalis. A second incision—which need only be a short one—is made over this point, dividing all structures until the peritoneal cavity is opened. A pair of forceps is then introduced into this opening and passed into the sac of the hernia, which it grasps where the incision into it was made. The sac of the hernia is then pulled out through the incision in the rectus, where it may be temporarily clamped. The aperture through which the hernia escaped is now closed, care being taken to leave sufficient room for the cord and spermatic vessels. Œdema of the testicle, which so often supervenes after herniotomy, is due to too perfect closure of the hernial aperture, and for several reasons this should be avoided. The redundant portion of the sac is now ligatured and excised, and a stitch is inserted into the rectus which includes the stump of the sac; and another one, which in-

[27] Medical News, Sept. 2, '99.

[28] Edinburgh Med. Jour., Oct., '99.

cludes the fascia of the rectus, closes the incision in the skin. The principles of this operation may be carried out in regions other than the inguinal; thus, in the case of a femoral hernia the second incision would be made at the same point as in an inguinal hernia; in the case of an umbilical hernia the second incision would be made to the left of the middle line, through which the sac, or what was left of it after excision, would be drawn, care being taken to avoid the anastomosis between the deep epigastric and internal mammary arteries.

In operating for umbilical hernia Marsh[29] says that, as a first step (originally suggested by Mr. Treves), the sac is stripped entirely of all the surrounding tissues and completely isolated down to the opening through which it leaves the abdomen; that is, to the level of the linea alba. After this isolation of the sac a curved incision starting from the middle line above is carried over the right side of the swelling to the middle line below, and a similar incision is made on the left side, the two together forming an elliptical wound. These two incisions include the skin which covers all the front of the swelling, only enough being left to allow the closure of the wound, without tension, in the middle line, when the hernia shall have been reduced and the sac removed. Next, the whole thickness of the subcutaneous fat is separated on either side from the outer surface of the sac, including its neck. The sac is opened by an incision in the middle line long enough to afford free access to its interior. The omentum is unfolded and the intestine exposed. This, when such adhesions as bind it within the sac have been divided, is returned. The operator now makes his way to the omentum, where its neck emerges from the abdomen. This neck, or stem, is defined and isolated, so that the finger can be passed completely around it. The stem is now tied in strands in the usual way, divided beyond the ligatures, and returned into the abdomen. There will now remain the sac, which is cut away by dividing its neck at the level of the ring. Its edges are brought together with sutures, and the peritoneal cavity is thus closed. The ring itself is next obliterated by strong, buried sutures, and the external wound is closed.

MORPHINISM.

Symptoms. — T. D. Crothers[30] states that in certain conditions of morphine-addiction a new personality appears — some psychical trance-state — in which great mental clearness, self-possession, and cunning, with unusual frankness and candor, are the prominent symptoms.

Criminal acts and purposeless deceptions are common. Forgery, swindling, and manias for certain acts, and adroit concealment of them, have appeared so far. In the court-cases no study has been made; the only recognition is that they are most dangerous criminals because of the superior capacity to lie, steal, and cheat, because they appear to be honest and have no conception of the nature of their acts. In the medical cases no one has studied this symptom of deception. It is a distinct pathological condition, which may be understood, and is the most significant of the brain-defects and degeneration.

Morphine may be said to cultivate the crime instinct; at all events, it prepares the way to certain criminal acts, which often have some previous predisposition. The perversion and damage to the higher centres which govern the ethical relations of life are always associated with mor-

[29] Brit. Med. Jour., June 17, '99.

[30] Jour. Amer. Med. Assoc., Aug. 12, '99.

phinists. The criminal side of these cases is the physical wreckage of the criminal relations of the higher operations of the brain. The criminal who is a morphine-taker is such a wreck. No exhibition of mental power and acuteness in such cases is evidence of sanity.

George Villeneuve[31] has reached the conclusion that morphine-addiction rapidly reaches the point where the victim commits indelicate actions without comprehending the importance of what he has done. There exists at an advanced period of the habit a rare diminution of will-power, which ceases to revolt against certain vicious and criminal tendencies. In the case of prolonged morphine-intoxication, when the tissues are so saturated with the drug as to alter the cerebral functions, when it has caused consequent intellectual weakness and diminution of the moral sense, responsibility should be lessened. When a crime is an act of a morphine-user forced thereto by the deprivation of the drug, it should be regarded as a pathological impulse, and no criminal responsibility should attach. The delirium of morphine should wholly absolve from responsibility.

Morphinism Among Physicians. — T. D. Crothers[32] finds that morphinism is increasing among physicians. The reports from private asylums and public hospitals show that within five years medical men form a considerable part of their inmates. Specialists of nervous diseases sustain the same fact. The young and the middle-aged men are the most common victims. Often they are from that class of delusional therapeutists who want to prove everything by personal experience, or who have exalted conceptions of the power of drugs, and believe that researches in that direction will open the road to a physical millennium.

According to an editorial,[33] J. B. Chapin, of the Pennsylvania Hospital for the Insane, says that since 1884, a period of fifteen years, there have been admitted into this hospital 31 physicians who were addicted to the use of alcohol or some drug. In many of these cases the habit was not confined to one poison; thus, some of the patients used both alcohol and morphine, and several of them used alcohol, morphine, and cocaine. In these fifteen years the hospital has received 1023 men. On the other hand, being a hospital for the insane rather than a retreat for inebriates, it probably only receives those patients who have somewhat deteriorated by reason of their habits. These 31 patients, however, were not so advanced so as to require certification, but went voluntarily to the hospital. The above does not tend, in the slightest, to confirm Dr. Crothers's sweeping charges that from 10 to 20 per cent. of physicians are intemperate in the use of alcohol and drugs. In addition to the above cases in men, 1 female physician and 1 female medical student were admitted for the drug-habit among 2119 female patients. As statistics, of course, these figures from one hospital alone cannot be regarded as absolutely conclusive, but they are at least most significant, and do not support the conclusion that physicians in large numbers are peculiarly liable to ruin themselves with alcohol, morphine, and cocaine, or are especially prone to use stimulants.

Treatment. — T. D. Crothers[34] looks upon the medical morphinist as dangerous to himself and others. He should place himself under treatment at once under the care of some one in whom he

[31] Montreal Med. Jour., Oct., '99.
[32] Medical Record, Nov. 25, '99.
[33] Phila. Med. Jour., Nov. 25, '99.
[34] Medical Record, Nov. 25, '99

has confidence, where special surroundings and special means can be used, and where the work of recovery can be made exclusive. Then he should give up all ideas of self-treatment, and trust to others without question or doubt. The morphine can be removed in a few days, and then the real treatment will begin; and this can be carried on in lines familiar to the patient, and with his full co-operation. The morphinist will discover the damage done to his system only when the drug is removed, and with a good adviser may do much permanently to repair it and be a healthy man in the future.

A caution which cannot be stated too strongly is that a physician should never use the needle on himself, and should never use it except by the counsel of a trusted medical adviser.

Morphine should never be given to a neurotic or psychopathic physician until one is satisfied that it is the best remedy that can be used. If one is using morphine he should abandon it at once, or make every effort to do so at the earliest moment.

Austin J. Pressey[35] always endeavors to, and in 90 per cent. of the cases is successful in, so far restoring the nervous system to its normal condition in advance of withdrawing the morphine that the amount withdrawn is not discovered by the patient. The effect of any drug that may be given the patient as a substitute, or to quiet him while withdrawing the morphine, is equally as bad, and may be worse than that of morphine itself. When the largest amount has been withdrawn that can be done and still leave the patient comfortable, then the reduction must cease until the system has had time to adjust itself to this new condition of things. The real key to success is to keep the patient on just as small a quantity as is compatible with comparative comfort, and yet not get his dose so small that he will be miserable before the next regular hour for morphine. The morphine is personally given four times a day, at 7 A.M., 12 M., 5 P.M., and 9 P.M., the patient thus gets his dose just previous to meals and bed-time, which enables him to eat and sleep much better.

It is useless to ask a patient to take nourishment when he is needing morphine, and there are no drugs that can compare with plenty of good food and sleep to restore the nervous system.

The most suitable place to care for these patients is in institutions devoted exclusively to this class of work, where physicians and attendants can constantly have an eye on each patient in the institution. So far as medicine is concerned, no fixed formulæ can be given. Baths and massage are beneficial in many cases.

In the treatment of about two hundred cases upon the above plan, personal experience has been that in direct proportion to the success attained in recuperation previous to the reduction of morphine has been the lessened amount of discomfort to the patient, and in the cases, only, that have shown little tendency to recuperation in spite of all efforts has there been sufficient discomfort to be worth mentioning.

J. Heinrich[36] considers dionin as the most valuable of all the morphine substitutes in the treatment of the morphine-habit. In fact, its power to relieve the morphine-habit is its most valuable property. So far as the dose is concerned, about one-third more is required than when morphine is given, but the exhilaration following the injection is not nearly so great as that following mor-

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[35] Jour. Amer. Med. Assoc., vol. xxxiii, No. 7, '99.

[36] Wiener med. Blatt., No. 11, '99.

phine. A slight itching of the skin is usually observed a few minutes after the exhibition of the dionin, which, however, disappears in at most ten minutes, even when of the most aggravated form. Its great solubility causes it to be rapidly absorbed and as rapidly eliminated. This prevents any cumulative action.

In the cure of the morphine-habit Neil MacLeod[37] uses bromide of sodium. By it he is able to stop the use of the drug within three days after beginning the treatment, and that without suffering on the part of the patient. Three ounces of the bromide of sodium distributed over a period of three days is usually sufficient, and none should be used after bed-time of the third day. There is generally continuous sleep for five or six days and nights. Milk alone constitutes the diet. Every night and morning, at least, the patient should be placed upon the commode for the evacuation of the bladder and bowel. The usual dose of morphine may be given the first day; one-half on the second, and little or none at all on the third. Solid food should be given as soon as it can be taken. At least six weeks are required for the successful conclusion of this method of treatment.

Speech and locomotion are gradually recovered, while the mental confusion clears up but slowly. Delusions, at first numerous, will lessen; memory improves, and, while sleep may still be irregular, further treatment will be unnecessary.

An editorial[38] emphasizes the fact that the practice of employing alcohol, chloral, ether, or other substitutes for opium invariably results in grafting a new drug upon the old one. The employment of coca-wine, which has been highly recommended for use in cases of this sort, should be condemned in the strongest terms. Numerous cases have occurred in which persons have become enslaved to coca-wine, and the results have been worse than those following the habitual use of morphine. The treatment of the drug-habit must include something more than antidoting measures or such remedies as will enable the patient temporarily to discard his accustomed narcotic; he must be lifted to a higher plane of physical existence.

Exercise, hydrotherapy, and out-of-door life, with a pure, unstimulating diet, are the most valuable and efficient means of accomplishing this.

PERITONITIS.

Symptoms.—Rosseau[39] finds that peritonitis forms a rare sequel of vulvovaginitis in the young, owing to the absence of congestive alterations in the pelvic organs at this age; but it may sometimes take place by the ascent of infectious organisms to the peritoneum. Three principal forms may occur: (1) acute general peritonitis, sometimes grave, sometimes benignant; (2) localized peritonitis; (3) subacute or chronic peritonitis. The more severe form of the first is ushered in by pain in the abdomen, not very severe at its onset, but which increases till the child takes to its bed. The patient is pale, with a quick pulse and elevated temperature. Tenderness of the abdomen may be situated in both iliac fossæ and the hypogastric region, or radiate from the right iliac fossa to the region of the liver, or, again, it may be periumbilical, or it may extend over the whole abdomen. Tympanites is often considerable in amount, along with vomiting, diarrhœa, and other signs of acute peritonitis. Death is the

[37] Brit. Med. Jour., Apr. 15, '99.
[38] Modern Medicine, Aug., '99.
[39] Jour. de Méd. et de Chir., Aug. 25, '99.

rule in this form of the disease; it is often heralded by a fall of temperature, while the pulse increases in frequency.

In the localized form the affections are limited to the pelvic and iliac peritoneum. The pain is intense, is confined to one or other iliac fossa, or it may be hypogastric. The abdomen is distended, tense, and rigid, and the thighs are flexed. There is vomiting and occasionally difficulty in micturition. The temperature reaches 100° to 102°; the pulse is rapid. Recovery is the rule.

Chronic peritonitis includes cases of chronic salpingitis and pelvic adhesions. This form may be latent, and it is possible for a vulvitis to produce salpingitis and pelvic adhesions without pain or other abdominal trouble. It is important to bear in mind the possibility of a vaginitis's spreading to the peritoneum, and in treatment to see that the vulvovaginitis receives attention, as well as the peritonitis.

Etiology. — Cushing[40] says that there is experimental proof that in certain small animals the gonococcus can set up acute alterations in the peritoneum homologous with the acute septic serositides in man, but differing from these in their tendency to rapid and spontaneous healing. Hitherto there has been wanting conclusive proof that, in the peritonitides attendant upon gonorrhœa occurring in woman, the gonococcus was solely or chiefly concerned. Two personal cases bring, for the first time, convincing evidence of the existence of a diffuse, general inflammation of the abdominal cavity caused by the gonococcus. A general involvement of the peritoneum, such as occurred in the two cases, must either be rare or unrecognized, and may depend upon some especially receptive condition of the serosa or the virulence of the organism. The peritoneum is not more immune than are the pericardium and endocardium to gonococcic infection, and, being more exposed, suffers more commonly in females, although the relatively benign course of the disease makes it a rare condition to come to the attention of the surgeon in the acute stages.

Treatment.—In regard to operation in peritonitis, the views of Tietze[41] are as follow: Surgical interference in peritonitis is for the purpose of liberating the infectious (toxic) exudate and arresting the morbid process by drainage or the gauze tamponade. Operation should be undertaken as soon as we have evidence of the presence of an exudate. Irrespective of the presence or absence of an exudate, we should operate in the first stage of a perforative, traumatic, or post-operative peritonitis; also at the onset of a septic peritonitis. In advanced diffuse-septic peritonitis operation is useless. Dry peritonitis with phenomena of irritation (but not intoxication) is not operable. Advanced infectious peritonitis is not operable.

Stuart McGuire[42] says that in general suppurative peritonitis primary incision should be made at the point giving the shortest and most direct route to the focus of infection. Secondary ones should be usually three in number: one opposite, below or above, the primary incision, and the other two in the posterior lumbar region. In females an opening through the Douglas sac is of service. These secondary incisions should be large enough to permit the easy insertion and passage of gauze drains, but not large enough to cause danger of bowel-protrusion in coughing or vomiting. In order

[40] Bull. Johns Hopkins Hosp., vol. x, '99.

[41] Mittheil. a. d. Grenzgebieten der Med. u. Chir., B. 5, No. 1, '99.

[42] North Carolina Med. Jour., July 20, '99.

to cleanse the abdomen thoroughly it should be emptied, the intestines should be drawn out through the incision, wrapped in the hot gauze towels, and laid to one side. The cavity should then be wiped out with moist gauze compresses and the bowels gone over loop by loop and freed from all infection. This is to be done under continuous hot irrigation of plain sterilized water. If the bowels are paretic and distended with gas, they should be incised at several points and the tension relieved before they are returned. When the gas escapes the opening should be sutured. Gauze drains usually can be removed in from three to five days.

In a case of acute general septic peritonitis Ernest Laplace[43] successfully used continuous irrigation with warm normal salt solution. On opening the peritoneum, about 8 ounces of thin foul pus escaped. The incision was enlarged, and the intestines drawn out. These were very much inflamed, covered in many places with fibrinous exudate, and exceedingly adherent to the peritoneal surface of the gut. The omentum was very inflamed at its attachment, while its extremity was thoroughly gangrenous. The appendix was found adherent, elongated, and inflamed. While the intestines were out of the abdominal cavity, a stream of warm normal salt-solution was kept flowing over them. During this time the gangrenous omentum was resected. All the flakes of plastic lymph were carefully removed from the intestines and mesentery, and finally the appendix was resected.

The prognosis was grave, but it was decided to try constant irrigation. To this end the glass nozzle of the irrigator, still attached to the rubber tube, was introduced down to the Douglas *cul-de-sac*. The tube was then fixed to the abdominal wall by means of a suture at the lower extremity of the incision. An ordinary glass drainage-tube with rubber tubing was placed about three inches above. The rest of the incision was closed above the second tube. The wound between the first and second tubes was packed. A small gauze dressing was loosely laid on the wound and secured by a piece of plaster. The patient was placed in bed on a Kelly pad communicating with a bucket under the bed. An irrigator was arranged above the bed and put in connection with the first tube. Warm normal salt solution (0.6 per cent.), at a temperature of 100° F., was allowed to flow continuously through the abdominal cavity, and drain through the second tube and through the wound into the Kelly pad, thence into the bucket under the bed. This was kept up continuously day and night for 72 hours from the time of the operation, at the rate of 10 pints every 15 minutes, making a total flow of 360 gallons of normal salt solution through the patient's peritoneal cavity in 72 hours. Strychnine sulphate, $^1/_{40}$ grain, was given every three hours. Convalescence was uneventful.

Immediately after the operation for acute peritonitis, T. H. Russell[44] thinks the patient should receive an enema of a pint of normal saline solution. This is very rapidly absorbed, and its effects are usually very manifest. Thereafter there should be from $^2/_3$ pint to a pint injected into the rectum every three hours until the pulse and the patient's general condition no longer shows symptoms of shock. If the patient quickly expels this enema, or does not wholly retain it, the nurse should be directed immediately upon withdrawing the nozzle

[43] Treatment, Oct. 26 '99.

[44] Yale Med. Jour., Dec., '99.

of the syringe to apply the thumb over the anus, so that the enema is forcibly held within the rectum. If necessary this pressure should be continued for half an hour or an hour after each injection. In a female patient all that is necessary is for the nurse to introduce the thumb just within the vagina, and the forefinger on the perineum, between the anus and the coccyx, and then she can compress the anus between the thumb and forefinger in such a way as to hold the enema in the rectum. In this way even larger quantities than a pint can be injected, and forcibly retained if the pulse require. If the patient is in a condition of collapse, and the symptoms extremely urgent, intravenous infusion of saline solution should be resorted to. The injection should be made into the median basilic or median cephalic vein. From 4 to 8 pints have been personally introduced in this manner. Strychnine and alcohol are most efficient medicinal agents. Morphine and opium should not be given.

Peritonitis, Tuberculous. — G. W. Crile[45] finds that tubercular peritonitis — if let alone or treated by medical means — usually terminates unfavorably. The result of operative treatment in tuberculosis of the peritoneum is more promising than that of a tubercular process in almost any other tissue. As to the method of procedure, good results seem to have been obtained by techniques differing in every essential excepting that of turning out the fluid. The cases in which, after the evacuation of the fluid from the cavity, other fluid was injected, or some preparation of iodoform applied, or the powder dusted in the wound, or in which oxygen was injected, or in which the cavity was washed out with salt solution, all showed like improvement. It appears that the technique employed, beyond that of opening the peritoneal cavity or of evacuating the fluid, seemed to yield about equally good results. As to the percentage of cures to be expected from operative procedure, in collecting all the cases that could be found up to the present time in the literature of this subject, 835 cases were cured, being 80 + per cent. of cures. Unless some contra-indication to an operation exists, every case of tubercular peritonitis ought to be operated upon as early as the diagnosis is made.

Frederic S. Dennis[46] states that Parker Syms finds it safe to estimate that 30 per cent. of the cases of tuberculous peritonitis are permanently cured by laparotomy.

Laparotomy, to be a life-saving measure, should be resorted to early in the history of the disease, since late operations show less favorable results. It is not contra-indicated when only a slight invasion exists in the lungs and pleuræ, since the operation often cures the pulmonary infection. It is contra-indicated, however, when acute miliary tuberculosis is present, also when the viscera are extensively involved. Laparotomy is called for as a further curative measure if ascites develops following the first operation.

Henry T. Byford[47] does not think the improvement of tuberculous peritonitis after abdominal section is due to the operation, but rather to the preparatory and after-treatment to which such patients are subjected by the surgeon. This was personally tried in one patient brought for operation, with results as good as in cases operated upon. The alimentary canal should be kept as aseptic as during and just after an abdominal section. Two or three liquid stools should

[45] Bull. Cleveland General Hosp., Jan., '99.
[46] Phil'a. Med. Jour., Sept. 30, '99.
[47] Jour. Amer. Med. Assoc., Sept. 9, '99.

be produced daily, by salines. If the stomach is irritable, calomel may be given at first. Eight or 10 grains of salol, guaiacol, or an equivalent should be given three or four times a day. The diet should be such as to produce a minimum of gas and of solid residuum. Peptonized milk and beef-peptonoids may be given. The same rest in bed as in abdominal section is continued until pain has disappeared and the temperature is normal. In all the acute cases the inflammatory condition must be first fought. After the patient is permitted to be out of bed any return of pain or fever should send him to bed again. Tonics, stimulants, and general remedies may be used. Systematic supervision and treatment should continue several months.

Cyclopædia of Current Literature.

ALBUMOSE-PEPTONE.

A study of albumose-peptone gives the following results:—

1. That it is impossible to maintain life upon peptone alone, as it is upon all other strictly-nitrogenous foods.

2. That, upon the addition of a small amount of carbohydrate, the nitrogenous loss from the body, with the same amount of albuminous food, is very much retarded.

3. Peptone must be regarded as not only able to replace native albumin as a means of checking nitrogenous loss, but also as a means of increasing albuminous tissue.

4. That, for a period of forty-five consecutive days, at least, peptone causes no diarrhœa or disturbance of the stomach. A. E. Austin (Boston Med. and Surg. Jour., Nov. 30, '99).

ANTENATAL AND INTRANATAL FACTORS IN NEONATAL PATHOLOGY.

If the characters of the diseases of the newborn infant are to be understood, it is essential that account be taken not only of the facts that the infant's organism has just passed through a period of traumatism and is passing through one of readjustment to meet new requirements, but also that, during the nine months of intra-uterine life which precede birth, it may have been the sphere of morbid processes which have left their impress on it. It may come into the extra-uterine environment already diseased or malformed or predisposed to some pathological development. Like pregnancy, neonatal life is an epoch which has a physiology in many respects peculiar to itself, and which borders very closely on the pathological, tending very easily to pass over into it. In a certain sense, the ordinary vomiting of pregnancy is, to the uncontrollable form, as the ordinary "physiological" jaundice of the newborn is to pernicious icterus neonatorum. Further, just as every woman brings with her into her pregnancy the results of her past pathological history, so the newborn infant brings with him, out of his antenatal life into his neonatal existence, the effects of any morbid processes which may have attacked him while *in utero*. In this way the pathology of pregnancy and the maladies of the newborn infant are both invested with peculiarities. The peculiarities, therefore, of neonatal diseases are not inexplicable, but are the direct outcome of the action of the ante-

natal and intranatal factors on the organism at this period of life. J. W. Ballantyne (Jour. Amer. Med. Assoc., Nov. 18, '99).

APPENDICITIS.

Etiology.—No one factor can be held answerable for the production of all cases of appendicitis. Although the disease is, almost without exception, the consequence of micro-organismal infection, it is rather of complex pathogenesis, and no one morbific agent is provocative of all attacks. It is because of the anatomical and physiological peculiarities of the appendix that factors innocuous in the intestine, or morbific agents capable of being successfully counteracted by the physiological activities of the intestine, become, in the appendix, of heightened virulence, and engender the most disastrous consequences. A. O. J. Kelly (Phila. Med. Jour., Nov. 25, '99).

Treatment.—The following is a summary regarding the operations for appendicitis:—

I. Should every case be operated upon as soon as the diagnosis is made?

As a rule, the appendix should be removed if the diagnosis is made in the first hours of the attack.

After the early hours operation is advisable: 1. If the symptoms are severe, and especially if they are increasing in severity. 2. If the symptoms, after a marked improvement, recur. 3. If the symptoms, though moderate, do not improve.

The wisdom of the operation is questionable: 1. In severe cases in which an extensive peritonitis is successfully localized and the patient is improving. 2. In cases which are at a critical stage, and which cannot successfully undergo the slightest shock.

II. Should the appendix be removed in every case?

It should not be removed: 1. In localized abscesses with firm walls. 2. When the patient's strength does not permit prolonged search.

It should be removed whenever the peritoneal cavity is opened, unless the patient's condition forbids.

The appendix should be removed in all cases as soon as the inflammatory process has had time to subside completely: in from two to three months after the attack. In cases simply drained the scar-tissue should be excised, the appendix removed, and the wound securely sutured. Maurice H. Richardson (Amer. Jour. Med. Sciences, Dec., '99).

ARTHRITIS, GONORRHŒAL.

Treatment. — In joint affections of gonorrhœa the main principle in treatment is rest. Great benefit is derived from both mercury and iodide of potassium, the latter in large doses. Evaporating lotions or tincture of iodine may be applied to the joint. If the joint be very tense and the pain be exceedingly acute, immediate relief is obtained by incision and the flushing of the joint with an antiseptic fluid.

The most serious feature of all these forms of gonorrhœal arthritis, however, is the tendency to ankylosis. The inference to be drawn from this is that, though rest is necessary, it must not be too long continued. Passive movement must be used early: much earlier than in other joint affections. An examination of reported cases shows that the joints of the lower extremity are affected almost twice as frequently as those of the upper. The knee is most often attacked, then the hip and elbow; practically every joint in the body can be affected. B. G. A. Moynihan (Lancet, Nov. 18, '99).

ASPIRIN.

Aspirin, which is acetyl-salicylic acid, has been found to cause violent headache, and tinnitus aurium after doses of 75 grains. Apparently the salicylic acid is not liberated in the stomach, but is liberated in large quantities in the intestines. If, however, there is motor insufficiency of the stomach, the salicylic acid may be liberated in that organ. Tinnitus very rarely occurs as a result of physiological doses: about 60 grains per day. The drug is apparently of value in rheumatic conditions and chronic inflammations of the serous membranes. The advantages over sodium salicylate are its agreeable taste, non-irritation of the stomach, absence of tinnitus, of cardiac depression, and of impairment of the appetite. Floeckinger (Med. News, Nov. 18, '99).

BLOOD-STAIN.

A blood-stain that fixes and stains ordinary blood-films in two minutes, and that demonstrates with perfect clearness and in well-marked contrasts red blood-disks, blood-platelets, the nuclei of white blood-cells, the fine granules of polymorphonuclear leucocytes, coarse oxyphile-granules, basophile-granules, and—when present — erythroblasts, bacteria, malarial parasites, and filariæ, consists of equal parts of from a 1.2-per-cent. to a 1.25-per-cent. solution of Grübler's water-soluble eosin, of yellow shade, in distilled water, and a 1-per-cent. solution of Grübler's medicinal methylene-blue, also in distilled water, mixed together in an open basin and thoroughly stirred with a glass rod. The mixture may, with advantage, be left for twenty-four hours. It is next filtered, and the residue is dried either in the air or in an incubator or water-oven. When quite dry the residue is scraped off the filter-paper and is powdered. It is then shaken up with distilled water and washed on a filter, when the washings should be of a thin, dirty-purplish color. Finally it is again dried and powdered, and may be stored in suitable bottles. For use, 0.5 gramme of the powder is thoroughly shaken up with pure methyl-alcohol. Cover-glass preparations are made in the ordinary way, and upon them, as soon as the films (which should be extremely thin) are dry, a few drops of the straining and fixing solution are poured, no previous fixation being required. The cover-glass must have been absolutely clean and free from every trace of acid or alkali. After they have been cleaned and well washed in distilled water they should be kept in absolute alcohol only. The specimen is covered with a watch-glass to prevent evaporation and consequent precipitation. In from one to three minutes the stain is rapidly poured off, and the specimen is at once rinsed in distilled water till the film has a pink color, which usually occurs in from five to ten seconds. It is then dried either very high up over a flame or by agitation in the air, and is mounted in xylol-balsam. The red blood-cells appear of a terra-cotta color; the nuclei of the white corpuscles are blue; the platelets are mauve; the granules of the polymorphonuclear white cells and of myelocytes are red; the granules of the basophile-cells (mast-cells), when present, are dark violet; and bacteria, malarial parasites, or filariæ are blue. The stain may be equally well made by dissolving the eosin and the medicinal methylene-blue directly in absolute methyl-alcohol and mixing them in the proportion given, viz.: 125 cubic centimetres of a 0.5-per-cent. solution of the eosin and 100 cubic centimetres of a 0.5-per-cent. solution of medicinal methy-

lene-blue. Jenner (Lancet, No. 3397, '99).

BURNS.

Treatment. — Ichthyol has been used in cases of severe burns with remarkable success. The ichthyol is applied pure and in a rather thick layer, talcum powder being then liberally sprinkled on it, and plenty of cotton-batting applied, the whole being fixed in place by means of a strip of soft material. The bandage should not be renewed. After three or five days it is removed, and the burned part is then found to be entirely healed. This result is invariably secured in burns of the first or second grade, if the ichthyol application has been made when the vesicles may still be completely emptied of their fluid contents on incision. If the contents of large vesicles are already gelatinous, or if the vesicles are already cracked, it is necessary to remove the *detritus* before applying the ichthyol.

Disinfection is entirely unnecessary. Should the bandage have become wet through from excessive secretion on the second day, it should be removed, and a new application of ichthyol with fresh cotton be made. As renewal of the bandage is very painful, ichthyol vasogen may be used in severe cases, where there is a probability of the secretion's being superabundant, as such bandages may be readily renewed twice daily if necessary. Fr. E. Mueller (Aerztl. Rund., No. 21, '99).

CASTS IN URINE, PRESERVATION OF PERMANENT SPECIMENS OF.

In order to preserve as permanent specimens casts found in urine, a mixture of the following will be found of value: Liquor acidi arsenosi (U. S. P.), 1 fluidounce; salicylic acid, $^1/_2$ grain; glycerin, 2 fluidrachms. This is to be warmed slightly until solution is effected, when acacia (whole tears) is added, and it is again warmed until the solution is saturated; after subsidence, the clear supernatant liquid is to be decanted. A drop of formalin (40 per cent.) may be added to this mixture if desired.

After all ordinary precautions as to cleanliness are taken in securing the urine, a bottle, previously cleaned, is partially filled, corked tightly, and allowed to stand in a cool place until a precipitate collects at the bottom of the liquid. The supernatant urine is decanted and an equal quantity of distilled water is added to the precipitate, and it is allowed to stand until it collects again at the bottom of this liquid. (If a few drops of chloroform are added, urine thus obtained can be kept for days without any change in the casts.) The precipitate is lifted by means of a pipette, and a small drop of the thickest of this sediment is placed on the centre of the slide and carried to the microscope, where it can be viewed under a low power. If casts are present, it is evaporated nearly to dryness, when a drop of the above-described medium is added by means of a glass rod to the centre of the drop of urine, and it will be noticed that there is no tendency for these substances to mix; the urine completely surrounds the drop of medium, and in order to get an equal distribution of casts throughout the field, it is necessary to carry a fine needle from the outer margin of the urine to the centre of the medium until the two substances show no tendency to separate, care being taken lest air-bubbles are produced. A cover-glass is moistened by the breath and then allowed to fall gently on the specimen. The slightest pressure, or the application of heat, is usually destructive to casts. The slide is now put in a cool place for a few hours, in order that hardening may be complete. A

permanent ring of zinc-white has been shown to be of value in the preservation of these specimens. L. Napoleon Boston (N. Y. Med. Jour., Nov. 4, '99).

CATHETERS.

No catheter whose surface is fissured or otherwise roughened should be passed into the human urethra. For general use, physicians will find it advantageous to purchase the higher grades of web catheters, because, with proper care, they last long and retain their suppleness and smoothness. After having used an American silk-web catheter three hundred times, its surface was found to be as smooth as in the beginning.

Web and rubber catheters are much injured by fats of all kinds, by glycerin, by saliva, and by vaselin. A watery solution of dry soap, with the introduction of some ingredient to add lubricity to its viscidity, is of value. The following is a modification of a formula for a saponic lubricant:—

℞ White Castile soap, powdered, 1 ounce.
Water, 3 ounces.
Mucilage of chondrus crispus, 3 ounces.
Formalin (40 per cent.), 10 minims.
Thymol, 5 grains.
Oil of thyme, 5 minims.
Alcohol, 15 minims.

The soap and water are heated and stirred until an homogeneous slime is formed; then the 3 ounces of mucilage (made of the strength of 1 ounce of chondrus crispus to the pint of water) are added. When cool, the formalin is poured in, then the thymol and oil of thyme mixed with the alcohol; it is then stirred, strained, and kept in a covered vessel until all air-bubbles have vanished. The result, which is an opalescent, slimy substance, of the consistence of honey, should be put up at once in 2-ounce collapsible tubes and sterilized. The lubricant is sufficiently viscid, adheres well to the surface of all instruments, does not lump, and is unirritating to mucous membranes.

All web catheters are to be kept at full length, and never coiled. They should be loosely wrapped in dry antiseptic gauze, and preserved in tightly-closed metal cases until wanted for use. Before using a web catheter it should be sterilized in formaldehyde-vapor and be momentarily immersed in warm Thiersch solution. After using, it is to be well washed by forcing a stream of water through the instrument, which is then dipped for a moment in Thiersch's solution. It should then be thoroughly dried, wrapped in antiseptic gauze, and inclosed in a metal case.

Soft India-rubber catheters are also to be kept at full length, never coiled, and are to be wrapped in moist antiseptic gauze and preserved in tightly-corked glass tubes. Before using a rubber catheter it should be sterilized in formaldehyde-vapor and momentarily dipped in Thiersch solution warmed. Rubber catheters, when daily lubricated with fats, seldom last more than three or four weeks, then swell, lengthen, and become so soft as to be liable to be torn across during withdrawal.

When it is possible to teach a patient the use of the catheter perhaps the safest instrument that may be placed in his hands is the "velvet-eyed" India-rubber catheter, which he must cleanse thoroughly before and after its employment. J. W. S. Gouley (New York Med. Jour., Nov. 4, '99).

CHLOROFORM.

For giving chloroform, nothing compares with a 2-ounce bottle, with glass

stopper, a notch being in the stopper and neck of bottle; so that, when placed opposite each other, a drop at a time will escape. Patent droppers are hard to regulate and often allow too much anæsthetic to escape at one time. The inhaler should be a common wire mask, covered with one thickness of old linen, made from old table-cloths or napkins, or two thicknesses of cotton gauze. Linen, being more absorbent than cotton, allows the mask to become wet; on this account the cotton is to be preferred. A fresh one should be used each time, or the old one sterilized. One should not trust the task of giving an anæsthetic to a student, nurse, or some physician who is unfamiliar with its administration. The anæsthetizer should be cool, thoughtful, and, above all, should have experience: one who appreciates the great responsibility that rests with him, giving his undivided attention to the anæsthesia, and not devoting almost his whole attention to the operation. Having cleansed his hands, he should don a sterilized suit and cap. After operation he should see that the patient is properly placed in bed, and watch his condition until he regains consciousness. F. W. McGuire (Buffalo Med. Jour., Dec., '99).

CONSTIPATION IN BOTTLE-FED INFANTS.

In constipated bottle-fed infants the fat should be increased to at least 4 per cent., regular habits taught, and a small quantity of orange-juice or stewed prunes administered daily. The suppository of soap or gluten or waxed paper inserted into the rectum at the same hour every day is very effective in promoting regularity of the bowels. Massage, both general and local, is often of the greatest service. Drugs should be avoided as much as possible. Codliver-oil and the sweet preparations of malt are often of value. Editorial (Pediatrics, Nov. 15, '99).

DOSAGE.

It is not sufficient, in giving a dosage table, to say that in patients above 60 years of age the dose should be graded inversely to those of children. This seems altogether too indefinite. The following formula has been developed, taking for granted that at the age of 90 a patient should receive just half the adult dose:—

$$\frac{\text{Age}}{60 + 4 \text{ for each year older}}$$

This formula, however, is not perfect; the best method is to fix the proportion of the adult dose for each decade. Thus, at 70 the dose should be fixed at $^3/_4$ of the adult dose; at 80, $^2/_3$ should be the dose; at 90, $^1/_2$; and at 100 and over the dose should be $^1/_3$. Samuel F. Brothers (Phila. Med. Jour., Oct. 21, '99).

ECLAMPSIA.

Etiology. — After studying fifty-nine cases of eclampsia in the Imperial Maternity at Kieff, it is concluded that eclampsia is a primary disease of the kidneys due solely to autoinfection of the patient by the accumulation of waste-products in the maternal and fœtal blood. It is essentially a disease of pregnancy, not of parturition, and it always tends to interrupt gestation. Abuladse (Monats. f. Geburts. u. Gyn., Sept., '99).

EPIDIDYMITIS.

Treatment.—In mild cases of epididymitis no other remedial measures are needed than having the patient go to bed and having the testes well supported. In these cases, however, the diet should be light, and the recumbent position must be maintained as far as possible.

As a means of relieving pain in epididymitis, the application of tobacco-leaves wet in water as hot as can be borne and applied directly to the scrotum is excellent. The leaves of tobacco should be applied fresh when they get cold. When tobacco does not have a happy effect, a flaxseedmeal poultice, to which laudanum has been added in liberal quantities, should be used. When there is considerable fever, any coal-tar antipyretic may be given.

Other indications for treatment will have to be met on general principles. To obtain resolution, better results have been noted from the employment of iodine vasogen than by any other agent employed. This is rubbed into the scrotum every three or four hours. Patients treated with this agent have recovered in an average of five days. Its use is begun after the subsidence of the symptoms of acute inflammation, and when the swelling is at its maximum. No internal remedies need be exhibited except when the patient has some co-existing disease, or where great pain, fever, or some other symptom attains to such importance as to make that course advisable. R. C. Kenner (New York Med. Jour., Nov. 11, '99).

EPISTAXIS.

Etiology. — Epistaxis should be regarded as a symptom of a local or general disease. The local lesions concerned may be said to be, in the order of frequency, (1) deviation of the nasal septum, whereby crusts and scabs form on the cartilaginous portion and, being removed by the patient, give rise to ulcerations; (2) fracture of the septum or nasal bones or trauma due to nasal operation; (3) new growths of the nostril, especially angiomas and angiosarcomas. The constitutional diseases leading to epistaxis in the order of frequency are any form of disease of the kidneys, resulting in increased arterial tension, plethora and anæmia, and syphilis, phthisis, and alcoholism. Severe arterial hæmorrhage without local lesions should always lead to examination of the general condition, and especially of the kidneys.

Treatment. — All forms of epistaxis should be treated by location and cauterization of the bleeding-point of the septum with the aid of a strong reflected light and a nasal speculum. In order to find the bleeding-point the hæmorrhage should first be controlled by a peldget of cotton soaked in a 10-per-cent. solution of cocaine. The bleeding-point, after the nostril has been carefully wiped out, should be cauterized with chromic acid or the galvanocautery-point heated to a dull red. If cocaine fails to stop the hæmorrhage, suprarenal capsule in a 10-per-cent. solution may be used in the same manner, followed, as before, by cauterization. If no bleeding-point can be found and if the hæmorrhage persists, the nostril should be packed by means of antiseptic gauze, introduced by a pair of long forceps along the floor of the nose as far as the posterior nares, laid strip on strip until the nostril is occluded. Posterior plugs drawn up into the posterior nares are deprecated on account of the danger to the ear as well as the discomfort caused by them. F. C. Cobb (Phila. Med. Jour., Nov. 25, '99).

GASTROTOMY, INDICATIONS FOR.

Gastrotomy, simple incision followed by immediate closure of the stomach, is done principally for the purpose of removing foreign bodies from the gastric cavity. These may have been swallowed or been found in the stomach. The operation is indicated: 1. If the swallowed body is not smooth, but irregular, with

sharp edges, which may injure the tissues. 2. If it is too large to pass through the pylorus and at the same time gives rise to disturbances: pains, nausea, vomiting, etc. 3. In rare instances, in order to examine the interior of the stomach with reference to the presence of malignant superficial neoplasms, ulcers, or ruptured blood-vessels in the case of profuse hæmorrhage. Max Einhorn (Med. News, Nov. 25, '99).

GOITRE.

Treatment.—With the idea in mind that iodine alone was the essential medical remedy for the removal of such goitres as could be influenced by medicine, during the last four years three-fifths of personal cases have been treated with iodine, and two-fifths with the thyroid preparation. In 30 thus treated it has been found that the patients who received the iodine improved more rapidly than the others, and during the last three months all patients have been taking iodine, only accompanied by tonics as required. Few of them can take iodine steadily for many weeks without showing evidence of weakness; slight anæmia is likely to follow, with increased rapidity of the heart's action; often slight dyspnœa and headache, with diminution of bodily weight. Therefore, the patients should always be weighed when the treatment is commenced, and frequently afterward. The prescription is as follows:—

℞ Iodini (crystals), 2 grains.
Pot. iodid., 4 grains.
Alcoholis, 1 drachm.
Syr. simplicis, 1 drachm.
Aquæ destil., 2 ounces.

A teaspoonful to be given in a wineglassful of water, one hour after each meal-time. After about two weeks, sometimes from the beginning, an iron tonic is given,—Blaud's pill, ferri subcarbonate, or tincture of iron,—and, if the patients are weakening rapidly, strychnine combined with calisaya and iron, the iodine being discontinued for a week or two at a time. After three weeks there is usually a perceptible difference in the size of the goitre. In six months many of the goitres disappear, others are reduced to from one-half to one-eighth their original size. Many patients breathe better and their voices improve. Some do not yield to the treatment. Three months' trial is sufficient in such cases. If the goitre is cystic, or if fibrosis is extensive and the goitre interferes with the voice, respiration, or heart's action, or if there is a large goitre accompanying Graves's disease, and no contraindication exists, operation should be advocated. F. C. Schaefer (Jour. Amer. Med. Assoc., Nov. 25, '99).

From our present knowledge of goitre the following general conclusions seem justifiable:—

1. Successful treatment depends upon accurate and early diagnosis of the nature of the goitre.

2. Struma should be treated by internal use of iodine or thyroid extract and the intraparenchymatous injection of iodoform or carbolic acid.

3. If these fail, either enucleation or partial thyroidectomy is indicated.

4. Adenoma should be treated by enucleation if the tumor is small, and by partial thyroidectomy if of large size.

5. Cysts should be treated by evacuation and injection of carbolic-acid solution or iodoform emulsion.

6. If this fails, they should be enucleated.

7. Sarcoma and carcinoma should be treated by complete removal of the thyroid gland, with subsequent administration of thyroid extract.

8. The treatment of exophthalmic goitre is generally unsatisfactory, and at present time surgical measures promise the best results.

9. Undifferentiated goitre may be treated by thyroid extract and iodine, but intraparenchymatous injections, and — if necessary — operative treatment, should be employed early.

10. The surgical treatment of all varieties of chronic goitre is, generally speaking, the most successful and most satisfactory. Albert I. Bouffleur (Medicine, Nov., '99).

GONORRHŒA IN THE FEMALE.

In gonorrhœa in the female irrigations are to be made with solutions of bichloride of mercury, 1 to 5000, or with permanganate of potassium, 1 to 5000. These irrigations are easily applied to the external genitalia, to the vagina, and to the vaginal portion of the cervix, and the douches should be taken with one of these solutions twice a day. Every two or three days the physician should insert a bivalve speculum, and with a solution of permanganate of potassium, 1 to 5000, thoroughly irrigate the vagina; then with small tampons of cotton the secretion from the cervix is to be carefully removed. When abundant discharge is flowing from the cervical canal, a Talley or Haynes douche-tube may be introduced into the cervix as far as the internal os, and with a mild stream of the same solution the cervical canal may be washed. When the symptoms of urethritis are present the urethra is also to be irrigated with the same permanganate solution. This is also done by means of a short recurrent catheter. Under ordinary circumstances, irrigation of the cavity of the uterus should seldom be made unless the discharge is very profuse. As a rule, instillations with a 1-per-cent. solution of protargol are used. Ichthyol has a beneficial action, especially in cases of acute gonorrhœa in the female, and in personal clinics every case of acute vaginitis and vulvitis easily yields to a few applications of tampons dipped in a preparation of ichthyol and glycerin, equal parts. In the subacute and chronic cases, however, the silver preparations are much more desirable. Protargol is the best antigonorrhœal remedy. It may be used in from 1- to 3-per-cent. solution as a urethral injection in cases of urethritis, as an injection into the ducts of the Bartholinian glands when affected, and especially in endocervicitis and endometritis. In introducing it into the cavity of the womb the Talley or the Haynes double tube may be used, care being taken to fill the tube with the fluid before introduction. The instrument being in place, the fluid is pushed out of the syringe very slowly, drop by drop. The catheter should be left in for a short time so as to give the fluid a chance to flow back, because, if some of the fluid remains in the body of the uterus, the woman may suffer from cramps and uterine colic. After removing the catheter a tampon is introduced to maintain the fluid in contact with the cervix.

Protargol in the beginning increases the discharge, which gradually diminishes. As soon as the gonococci have disappeared from the secretion the instillations with protargol are discontinued, and the woman uses douches of a mild solution of permanganate of potassium or of borate of sodium.

Before discharging a patient as cured, it is best to wait until after her menstrual period occurs, and then to examine the secretion for gonococci. Curettement of the uterus in chronic gonorrhœal endometritis should not be performed in cases in which the inflammatory process

is still active. In chronic cases curettement has been found to be the only remedy for chronic gonorrhœal endometritis. A. Ravogli (Med. News, Nov. 18, '99).

GOUT.

Treatment.—Treatment of gout should have for its aims the following objects:—

1. In cases of acute gout the gouty paroxysm must be treated and the severe pain must be relieved. This can be effected by the free administration of colchicum and potassium citrate and by a mild blue pill and Epsom salts purge. The painful joint or joints should be packed with wool saturated with a warm alkaline and anodyne lotion.

2. The elimination of uric acid should be promoted. For this purpose free diuresis should be encouraged by the administration of plenty of water and by the employment of potassium citrate, or potassium bicarbonate, or similar salts which exercise a diuretic effect and which at the same time diminish the acidity of the urine. For the same purpose green vegetable food should be freely taken.

3. The excessive formation of uric acid should be checked. This object is mainly attained by a carefully-selected dietary. When once the acute attack of gout has subsided there is no necessity to exclude butchers' meat from the dietary of the gouty. On the contrary, it is better for most patients that it should be moderately partaken of. Although a mixed diet is best suited to gouty patients, yet it is important that the dietary should be a simple one, and it is especially desirable to avoid at any one meal much mixing of proteids and carbohydrates. The stomach of a gouty patient, unlike that of a healthy individual, is not well able to digest half a dozen different kinds of food at the same time. The metabolism of the liver should also be promoted by the administration of guaiacum, by an occasional mild cholagogic pill, and by keeping the bowels open.

4. Attention should be paid to general hygiene. It is important to insist on suitable exercise's being taken as soon as the patient is fit for it. Golf and cycling are two beneficial exercises, in moderation, for the gouty.

5. Enlarged joints and other gouty deposits should be treated with a view to the removal of the deposited sodium biurate. This important branch of the treatment of the gouty can be carried out in various ways. Massage and muscular movements increase the flow of lymph in the lymph-channels and so tend to promote removal of uratic deposits and to increase the metabolism of the joints. This treatment may, with great advantage, be combined with the passage of the constant current through, and the employment of cataphoresis to, the affected joints and tissues. Baths of various kinds, including the superheated-air and radiant-heat baths, are most valuable. Suitable treatment at a properly selected spa is also of great benefit. A. P. Luff (Lancet, Nov. 18, '99).

HÆMORRHAGE, POST-PARTUM.

The following summarizes the conclusions reached regarding post-partum hæmorrhage:—

1. A knowledge of the source of the hæmorrhage is necessary to insure intelligent action.

2. All rents, when easy of access, should be repaired at once.

3. If the body of the uterus is contracted and bleeding excessive, and in all cases of hæmorrhage following placenta prævia, the whole cavity should be tamponed at once.

4. If this is not successful, or if the hæmorrhage is constant and not ex-

cessive, the bleeding vessels should be secured; if possible, the injury to be repaired.

5. If atony exists and hæmorrhage is not excessive, external and bimanual compression of the uterus should be used, followed, if necessary, by hot water, vinegar, or acetic acid.

6. If not successful or if atony exists with excessive hæmorrhage from the onset, one should tampon at once after using hot water.

7. Morphine should be given hypodermically to check the hæmorrhage and stimulants, strychnine, and autoinfusion to overcome the effects of the hæmorrhage.

8. To prevent anæmia, saline solution, preferably per rectum or hypodermically, is to be used. Saline solution may be used by infusion also, if necessary. J. Z. Currie (Boston Med. and Surg. Jour., Nov. 16, '99).

HEADACHE.

Treatment. — The treatment of the uric-acid headache depends upon clearing all the uric acid from the body and blood, which is best accomplished by (1) avoidance of animal foods, except milk and cheese, and of certain vegetable substances rich in alkaloids, such as tea, coffee, etc.; (2) taking enough albumin to produce from 3 to 3.5 grains of urea for each pound of body-weight per day, but not more; (3) clearing out stores of uric acid already in the body by a course or courses of salicylates. Haig (Brit. Med. Jour., Nov. 4, '99).

Sick Headache.—For relief and cure of sick headache, sulphate of magnesia should be given in $^1/_2$- to 1-drachm doses every morning, dissolved in a goblet of water. Equally-good results or even better may be obtained by administering at bed-time. The goblet or pint of water should be insisted on with every dose. The temperature of the water may be that which is most agreeable to the patient, although warm water, say 100°, seems more potent than that at a lower temperature. J. C. Culbertson (Jour. Amer. Med. Assoc., Nov. 18, '99).

IODIPIN AS A TEST FOR THE FUNCTIONAL ACTIVITY OF THE STOMACH.

A teaspoonful of iodipin was given a short time after a light breakfast to forty-six normal and diseased individuals, and then their saliva tested with starch-paper every quarter of an hour. The results of these experiments proved that, with normal stomachs, (1) the time which elapses before fat is passed on into the intestines, as shown by the appearance of iodine in the saliva, varies between a quarter and three-quarters of an hour; and (2) if its appearance is delayed for more than an hour, there is probably some disturbance of the gastric function. These results, which place the maximum limit of time during which fat may normally remain in the stomach at an hour, agree with those obtained by Sievers and Ewald, who gave salol, and then tested for salicylic acid in the urine. Winkler and Stein (Centralb. f. inn. Med., Aug. 19, '99).

KIDNEY, FLOATING.

Treatment. — In floating kidney the Weir-Mitchell treatment of rest and forced feeding has been followed by great benefit; and a few cases are on record of apparent cure of the disease without treatment, simply because an improvement in nutrition took place. The only good that we may hope to accomplish with a pad and bandage is by crowding up the whole of the abdominal contents. For this purpose a round cushion should

be made of chamois-leather, and covered with a movable cotton cover, to be frequently changed. This cushion should be filled with curled hair for the sake of elasticity and lightness; and, indeed, an air-cushion of rubber might do as well, and it should be thick enough to give the woman, when it is applied, a distinct roundness or plumpness of the abdomen. It should be put on while she is lying on her back, and held in place firmly by means of a broad flannel or woven elastic bandage, so as to keep it evenly pushed into the abdomen. When the patient stands erect all the abdominal contents will be supported, and the patient will experience great comfort immediately.

In those cases in which the above methods of treatment are impracticable or unsuccessful, nephrorrhaphy, which, as a rule, gives very satisfactory results, must be resorted to. A. Lapthorn Smith (Canadian Jour. of Med. and Surg., Nov., '99).

LEVURIN.

Levurin, which is the culture of a certain variety of yeast lauded in the treatment of furunculosis, may satisfactorily replace beer-yeast. It is of constant composition and greater permanency, is readily tolerated by the stomach, and appears to be endowed with a favorable action on intestinal digestion. It should be given in doses of from 1 to 2 teaspoonfuls daily, preferably before meals. Beer is the best vehicle for its administration, but carbonated waters are also serviceable. Aragon (Bull. Commerc., xxvii, p. 324, '99).

MENOPAUSE.

Hæmorrhage is not a necessary concomitant of the menopause. When it does occur, other than a metrorrhagia in the true sense of that term, it is in 95 per cent. of the cases significant of a pathological condition. During the past three years 482 healthy women over 52 years of age have been interrogated. Of these only 39 gave a history of what could be termed a hæmorrhage during the menopause, and out of this number only 5 gave a history of hæmorrhage of any persistency. In 187 tabulated patients, between 43 and 50 years of age, suffering from uterine hæmorrhage, 19 were due to pregnancy, 48 to malignant disease, 53 to fibroids or uterine cysts, 10 to diseased endometrium, 26 to diseased appendages, while in 31 no positive diagnosis was made. "All persistent hæmorrhages during menopause should be regarded with suspicion." John M. Duff (Jour. Amer. Med. Assoc., Oct. 21, '99).

NEUROTIC SPINE.

The neurotic spine is a weak back associated with certain general and local symptoms. The patient tires easily, and often is able to walk but short distances, sometimes not at all. There is a great deal of backache, particularly in the lower part of the back, and there are usually distinct points of tenderness over certain spinous processes; such spots may be found just below the occiput, between the shoulders, and in the lumbar region. Pressure on these points may give rise to a feeling of nausea. It should be borne in mind that in disease of the vertebra there is practically never localized spinal tenderness, and that the characteristic pains of Pott's disease are in front or at the sides.

In neurotic spine there is often tenderness over the sacro-iliac synchondroses, over the iliac crests, in the iliac fossæ, and elsewhere. This tenderness is often a sensitiveness to slight contact. Jolting, sneezing, and coughing do not usually hurt these patients as they do kyphotics, and the characteristic attitude is absent.

Sometimes a light application of the cautery to the back produces an excellent effect. In order to secure a radical and permanent cure, it is usually necessary to improve the patient's nutrition and *morale*, get him interested in something outside of himself, and systematically train the muscles. H. L. Taylor (Pediatrics, Nov. 15, '99).

PHTHISIS.

Treatment. — In 95 per cent. of the cases of consumption seen by physicians the patients are unable to afford treatment away from their homes. Arrest or cure of tuberculosis is a question entirely of nutrition, and, of the measures by which the general nutrition of the body may be encouraged, the first and most important is fresh air. The following directions for home-treatment are given: The almanac is to be taken and the hours of sunshine counted. In winter two hours are to be cut off in the morning and one hour in the evening, and for the remainder of the day the patient must be out-of-doors. If there is no possible arrangement for life out-of-doors, the patient must be put in a room with southern exposure, and the bed moved into the sunshine, with the windows wide open. If there is a balcony or veranda with a good outlook toward the south it should be arranged for the patient; if not, a shelter can be put up in the yard at a very moderate cost. On a well-padded lounge covered with a couple thicknesses of blankets the patient sits or reclines all day. Only on blustry, stormy, or very rainy days is the patient to remain in the house. No degree of cold is a contra-indication. This continuous open-air life at rest is the most powerful influence possessed to-day against the fever of tuberculosis.

In any long series of cases the patients who do well are those who take plenty of food. Each case must be dealt with separately, but as large a quantity of food as possible should be given, even, when possible, insisting on overfeeding, or stuffing. For some time personal patients have been urged to accustom themselves to take raw eggs, beginning with 1 three times a day, and increasing until they can take 20 to 24 a day. If broken into a cup and sprinkled with a little pepper and salt, the egg can be readily swallowed without breaking the yelk. William Osler (Phila. Med. Jour., Nov. 25, '99).

Sanatorial Treatment. — The first year's work of the Massachusetts State Hospital for Consumptives at Rutland is reviewed below:—

The hospital was opened in October, 1898, and is the first State institution for the treatment of phthisis. The work of this State hospital is limited to such "as are deemed not too far advanced to admit of reasonable hope of radical improvement." The number of patients admitted was 214; discharged, 126; still under treatment on October 1, 1899, 88. Of the 126 discharged, 11 remained less than two weeks; of the 115 others, 35 were rated as "arrested cases," 37 as "much improved," 17 as "improved," 24 "not improved"; 1 died and 1 proved to be a simple case of bronchitis. The term "arrested cases" was applied to those in which all active symptoms—like cough, expectoration, and fever—have disappeared, and where the general symptoms would indicate complete restoration to health. On entrance, 27 of these cases had slight signs in one or both apices, in 8 the signs were somewhat advanced in one or both lungs. Bacilli were found in 20 cases; 2 gave the tuberculin test; 9 without sputa gave undoubted symptoms and physical signs of pulmonary disease, and 4 were very suspicious without

definite signs in the chest. The average gain in weight in these cases in an average stay of 4 1/2 months was 15 1/4 pounds. The percentage of the "arrested cases" out of the whole number of patients was 31 per cent.; this percentage is almost exactly the same as that noted in sanatoriums elsewhere. Constant effort is made to induce patients to seek some form of livelihood other than the one in which the trouble arose. At Rutland, constant life in the open air, whether resting or exercising, is insisted upon. Except at the hours of rising or going to bed, the windows are left open, varying somewhat according to the outside temperature during the twenty-four hours. Sponge-baths and plunge-baths, pulmonary gymnastics, three hearty meals a day, with lunches of milk and eggs, or their equivalent, are essential parts of the treatment. Little weight has been given to medicinal treatment, except as an adjunct to the other more important kinds. V. Y. Bowditch (Phila. Med. Jour., Nov. 25, '99).

PRURITUS VULVÆ.

Treatment. — In pruritus vulvæ it is highly important to search carefully for the cause, and give that the treatment indicated. Thus, the distressing affection may be attributable to diabetes mellitus; hence it is well to bear in mind the importance of a careful urinalysis in these cases. In another instance specific infection will be present, and the indications for a cure be determined by attention to the gonorrhœal or chancroidal or other apparent cause. For temporary use in these cases, so far as the skin is concerned, no agent is superior to a lotion of carbolic acid, 5 grains to the ounce, or an ointment containing 5 grains to the ounce of cocaine, and zinc oxide, with adeps benzoinatus freely applied to the affected region. C. H. Powell (Merck's Archives, Nov., '99).

RESORCIN IN ECZEMA.

The beneficial influence of resorcin is most markedly apparent in eczemas, especially eczema seborrhœicum; when resorcin is combined with alcohol, in the proportion of 2 drachms to 4 fluidounces, respectively, and applied thoroughly to the scalp by means of a dropper, the cure of this troublesome scalp affection will be thorough and satisfactory. C. H. Powell (Merck's Archives, Nov., '99).

SCURVY, INFANTILE.

Diagnosis.—There are two affections occurring in children for which scurvy is particularly mistaken: acute rheumatism and acute anterior poliomyelitis. There is practically no reason at all why scurvy should be confounded with the latter disease. There is, of course, absence of movement in the limbs in both cases, but in anterior poliomyelitis this is due to inability to move them because of palsy; in scurvy the failure of movement is due to pain. This can very easily be decided by passive movements. Scurvy and acute rheumatism are not so easy to differentiate. In scurvy, however, the hæmorrhage is not into the joint and not into the epiphysis, but practically always into the diaphysis of the long bones. Blood-extravasations occur at times over the tissue and occasionally even over the carpus, but these are rare exceptions. If the bones are protected from motion it will be found that the joints in scurvy may be freely moved. At times, in scurvy, hæmorrhage occurs into the joints, and this may almost hopelessly confound the disease with rheumatism; but these joint hæmorrhages are very rare. A. Jacobi (Med. News, Oct. 28, '99).

SEASICKNESS.

In order to prevent seasickness the bowels should be opened—by either calomel, phosphate of sodium, or a saline purge—before embarking. An active purge (saline)—either Epsom or Rochelle salts, $^1/_2$ to 1 ounce—should be taken the night previous to embarkation, followed by 20 grains of bromide of sodium at 7 A.M. of the day of sailing, and this dose repeated one hour before the vessel sails. The passenger should remain on deck constantly during the passage across, save for meals and bed. Vichy and Apollinaris should be indulged in freely throughout the voyage.

In those who are seized with seasickness at sea, not having previously undergone this preparatory treatment, aromatic drinks, lemonade, and champagne, with imported ginger-ale *ad libitum*, are of great value. The patient should take the horizontal position. A general diet, substantial and succulent food, easy of digestion, with Vichy, or, if stimulation is indicated, brandy or wine, is most benefiting and useful. Cold food is to be avoided. J. Carlisle de Vries (New York Med. Jour., Sept. 16, '99).

SILVER.

Silver in its colloidal state is an excellent, non-irritant, and non-poisonous antiseptic that deserves to be tried, not only in surgery, but also in all the various fields of internal medicine. No other remedy so quickly and thoroughly cures the infectious diseases of the mucous membranes,—above all, the blennorrhœal ophthalmia of the newborn and colicystitis. Simple solutions of the pure metals should not be employed, but albumin to the amount of the beaten white of 1 egg to 200 cubic centimetres (6 $^2/_3$ ounces) of the solution should always be added, even when the drugs are employed as ointments. Arthur Schlossmann (New Eng. Med. Monthly, Oct., '99).

SNAKE-BITE TREATED WITH CALMETTE'S "ANTIVENENE SERUM."

We have in Calmette's antivenene serum a most powerful remedy against the bites of venomous reptiles, as has been fully proved both in the laboratory and, also, in a few instances, in actual practice. A personal case treated recently shows, first, that, no matter how acute the symptoms or how far advanced the effects of the poison, it is never too late to use the antidote, for the boy, in this instance, was, to all intents and purposes, dead at one time; and, secondly, that the "antivenene" will keep for an almost indefinite period, and exposed to all vicissitudes of climate, as the serum used in this case was in the plains of India for nearly four years. S. J. Rennie (Brit. Med. Jour., Nov. 18, '99).

SULPHONAL OR TRIONAL POISONING.

Treatment.—The most important point in the treatment of poisoning from the disulphones is the prophylaxis. It is not an uncommon practice for the sick woman to be given a prescription for sulphonal to be taken at her own discretion, the doctor, perhaps, not seeing the patient for several weeks at a time. Such a course seems most reprehensible, considering the insidiousness of the onset of the intoxication and the fatal results when once the poisoning is established.

Another important precaution to be adopted is to see that the poison is not allowed to accumulate in the body. Simply stopping the remedy for a few days will not suffice. The interruption should be for *at least* one week, and the intestinal

canal should be thoroughly cleared out. In chronic sulphonal poisoning after the discovery of the trouble the poison is to be stopped immediately and absolutely; if an hypnotic is necessary, morphine, combined with hyoscine, or small doses of chloral may be given. The first thing to be done is to empty the bowels thoroughly and promptly. The importance of this cannot be too strongly insisted on.

After emptying the bowels the most promising treatment of disulphone intoxication is that of Müller. Sodium bicarbonate formed the chief reliance of this investigator; but any other antacid, as magnesium carbonate, may be employed. Large amounts of water should be introduced into the circulation, both by the intestinal tract and by the subdermal tissues, in order to aid the elimination of the poison. The convalescence is likely to be very slow, often lasting several months. H. C. Wood, Jr. (Merck's Archives, Nov., '99).

THYROID EXTRACT.

As a result of thyroid treatment in 1032 collected cases of insanity, the following conclusions are of value:—

1. The dose of the extract depends entirely on the individual case. In some cases 25 grains three times a day will be necessary to bring about a circulatory or temperature-reaction, while in others the same results may be had with the use of 5 grains, *t.i.d.* Each case must be a law unto itself.

2. It is essential that the patient should be placed in bed to obtain the best results, and he should be continued there during the entire treatment and for a week following its discontinuance.

3. The treatment should be continued for at least thirty days.

4. We should not be discouraged by failure in the first administration, but should resort to two, three, or more trials, if necessary.

5. The most gratifying results in thyroid treatment are to be obtained in cases of acute mania and melancholia with prolonged attacks, puerperal and climacteric insanities, stuporous states, and primary dementia, particularly where these forms of mental alienation do not respond to the usual methods of treatment.

6. A high temperature-reaction is not essential, as the average maximum temperature in the recovered cases among men was 99.6°.

7. Physical improvement is the outcome in most cases, whether mental improvement takes place or not.

8. The proportion of individuals who recover under thyroid treatment and then relapse is less than the proportion that relapses after recovery from other methods of treatment. In personal series of cases only one patient who recovered has relapsed. William Mabon and Warren L. Babcock (Amer. Jour. of Insanity, Oct., '99).

TYPHOID FEVER, NUCLEIN TREATMENT OF.

As soon as typhoid is suspected protonuclein should be given. The usual dose is 2 tablets every three hours, varying, however, from 1 tablet to 4 tablets at a dose, as may be indicated by the effect produced. The larger doses are usually given in the beginning, the quantity being lessened after the system has responded to treatment. The patient is requested to abstain from all foods and other medicines for two hours. At the end of the first half-hour of this fasting period 4 to 6 ounces or more of hot water are given, and thirty minutes later the dose of nuclein, and then one hour is allowed for absorption. In this way every three-hour interval is divided into two

parts: the first two hours devoted to nuclein and hot water alone, the nuclein being given on an empty stomach at the middle of the interval; the last hour is devoted to feeding and whatever other treatment may be needed. In addition to the water given as stated, the patient is allowed water at all times, preferably hot, and is urged to drink it to the extent of a gallon or a gallon and a half each twenty-four hours. This treatment, with nuclein and hot water, is kept up steadily during the whole course of the disease. Frequently during the first twenty-four hours no benefit may be perceived, the temperature and disturbing symptoms may increase; after that both will decline. This is not an abortive treatment. Nuclein and hot water reduce temperature, lessen nervousness, mitigate all the serious symptoms, sustain bodily strength, oxidize toxins and waste-products, render them more freely soluble, and furnish the vehicle for their more complete removal from the system, and strengthen the resistance of the cell-structures of the body to disease. In cases where an antipyretic is needed, cold applications should be used.

Typhoid-fever patients are to be fed freely. In these cases the cell-structures of the whole body are to be sustained and strengthened. For this purpose nuclein is the best remedy, but good food and plenty of it is just as necessary. No unusual rules of feeding are needed, except that food must be given during one hour only out of every three, the other two hours being devoted to nuclein and hot water. J. M. Latta (Kansas City Med. Index-Lancet, Nov., '99).

UROTROPIN.

From experience and observations on the therapeutic action and effect of urotropin in diseases of the genito-urinary tract, the essential points may be summarized, in brief, as follows:—

1. A urinary sterilizer, antiseptic, and acidifier,—prompt and reliable in action, —moderate in dose, which, if adhered to, renders it both non-toxic and non-irritating to all parts of the animal economy.

2. In virtue of its peculiar affinity for the urine, into which it passes unchanged, and where it parts with formaldehyde, it is apparent that its action in genito-urinary lesions is likely to be complete and certain.

3. Its decisive and lasting effect, and especially its comparative singleness of action,—which latter is a most desirable property,—should give it a place in the list of medicinal specifics.

4. From the observations reported thus far, urotropin has appeared to be most frequently indicated in chronic diseases, where it has produced exceptionally good results.

5. In personal experience the diuretic action of the drug was not marked enough to render it deserving of claim to such a virtue. J. M. Thompson (Boston Med. and Surg. Jour., Nov. 16, '99).

CORRECTION.

Through an unaccountable error, an excellent article on the DISEASES OF THE LENS (page 337, fourth volume), written by Dr. F. W. Marlow, of Syracuse, N. Y., was credited to his colleague on the staff, Dr. Edward Jackson, of Denver. The editor greatly regrets this mistake, which deprives Dr. Marlow of the credit to which he is so thoroughly entitled. Those of our subscribers who will insert Dr. Marlow's name in its appropriate place will greatly oblige the editor.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Fifteenth Annual Report of the Bureau of Animal Industry for the Year 1898. U. S. Department of Agriculture, Washington, D. C., '99.——Transactions of the Philadelphia County Medical Society, vol. xx, No. 7, October, '99.——Why Some Severe Cases of Appendicitis End in Recovery Without Operation. By J. H. Carstens, Detroit, '99.—— Displacements and Dilatations of the Abdominal Organs; their Relation to Faulty Modes of Dress and Their Treatment. By Boardman Reed, Philadelphia, '99.——Dilatation of the Stomach, with Reports of Cases Treated by Diet, Massage, and Intragastric Electricity. By Boardman Reed, Philadelphia, '98.——A Dermoid Tumor Weighing over Seventy Pounds. By Henry T. Byford, Chicago, Ill., '98.——Accessory Thyroid Tumors at Base of Tongue. Report of Cases. By Jacob E. Schadle, St. Paul, Minn., '99.——A Contribution to the Etiology of Pompholyx. By Martin F. Engman, St. Louis, Mo., '99.——Prognosis of Laryngeal Tuberculosis. By Robert Levy, Denver, Col., '99.——Another Case of Acromegaly. By B. F. Lorance, Brock, Neb., '98. ——Pulmonary Tuberculosis. Report of Cases Treated with Intrapleural Injections of Nitrogen, with a Consideration of the Pathology of Compression of a Tuberculous Lung. A. F. Lemke, Chicago, Ill., '99.——Traction Plasters for Temporarily Contracting an Affected Lung, in lieu of the Murphy Operation. By Charles Denison, Denver.——The Tuberculosis Crusade and its Problems. By Charles Denison, Denver, Col., '99.——Five Hundred and Fifty Surgical Operations Without Alcohol. By Charles Gilbert Davis, Chicago, Ill., '99.——Cystoid Disease of the Testicle: Teratoma Testis? By F. R. Sturgis, New York, '99.——Sinus-thrombosis; Cure Without Opening the Sinus. By Robert Levy, Denver, Col., '99.——The Intestinal Treatment of Tuberculous Peritonitis. By Henry T. Byford, Chicago, Ill., '99.——The Remote Results of Shortening the Round Ligaments and Hysteropexy by Vaginal Section. By Henry T. Byford, Chicago, Ill., '99.——The Prognosis and Treatment of Chronic Sthenic Gastritis (Acid Gastric Catarrh). By Boardman Reed, Philadelphia, '99.——On Some Diseases of the Stomach and their Diagnosis by Chemical Methods. By Vaughan Harley, London, Eng., '99. ——The Effect of Compression of One Lung on Respiratory Gas-exchange. By Vaughan Harley, London, Eng., '99.——Thyroid Extract—A Review of the Results Obtained in the Treatment of One Thousand and Thirty-two Collected Cases of Insanity. By William Mabon and Warren L. Babcock, '99.——Preliminary Report of the Committee of Inspection Appointed by the Executive Committee of the Post-graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-graduate Hospital, New York, July, '98.——Second Report of the Committee of Inspection Appointed by the Executive Committee of the Post-graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-graduate Hospital, New York, July, '99.——Testimony in Regard to the Use of Preservatives in Food-products, given June 5 and 6, '99, at Chicago, Ill., at the Pure-Food Hearings before the Committee on Manufactures of United States Senate, Senator William E. Mason, Chairman. ——Zur Vaporisationsfrage. Von Dr. Desider Stapler, in Sao Paulo, Brasilien, '99.——Des Virus Jennériens et Pasteuriens. Considérés comme des agents de la Réapparition de la Peste en Europe et de prochaine expansion. Par Le Docteur H. Boucher, '99.——Report on Formaldehyde Disinfection in a Vacuum-chamber. By P. A. Surgeon E. K. Sprague, U. S. M.-H. S., Treasury Department, U. S. Marine-Hospital Service, Washington, D. C., '99.——Practical Forestry in the Adirondacks. By Henry S. Graves, U. S. Department of Agriculture, Division of Forestry, Washington, D. C., '99.——Report of the Secretary of Agriculture, Washington, D. C., '99.——Breeds of Dairy Cattle. By Henry E. Alvord, C. E., U. S. Department of Agriculture, Washington, D. C., '99.——Experiment-Station Work, xii. U. S. Department of Agriculture, Washington, D. C., '99.

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